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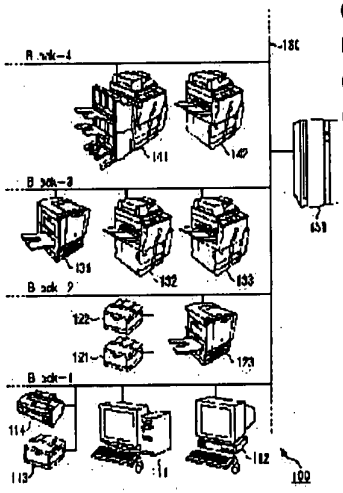
(54) INFORMATION PROCESSING DEVICE, NETWORK SYSTEM, DEVICE MANAGING METHOD, AND STORING MEDIUM



(57)Abstract:

PROBLEM TO BE SOLVED: To provide a network system, in which a device desired by a user can be efficiently used, even in a large scale network system where a plurality of devices can be shared with a plurality of users.

SOLUTION: A server 151 stores information on a plurality of devices 113, 114, 121, 122, 123, 131, 132, 133, 141, 142, and sends the stored information to a requesting user 111 or 112, based on a request from the user end 111 or 112. The user 111 or 112 which received the information displays on a screen a map information arranging metaphor showing the plurality of devices by imitating a physical space using the information of the server 151.

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CLAIMS

[Claim(s)]

[Claim 1] The information processor characterized by having the display-control means on which the map information which has imitated and arranged the display object which shows two or more above-mentioned devices to physical space is displayed based on the information about two or more above-mentioned devices which are usable information processors and have been transmitted from the server on the above-mentioned network in two or more devices which have the function of arbitration through a network.

[Claim 2] The above-mentioned display-control means is the function of the device shown using the information about two or more above-mentioned devices, the engine performance, and an information processor according to claim 1 characterized by displaying which information at least with the display object of a condition which shows the above-mentioned device.

[Claim 3] A storage means to be the information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network, and to memorize the information about two or more above-mentioned devices, So that the map information which has imitated and arranged the display object which shows two or more above-mentioned devices using the information within the above-mentioned storage means to physical space can be displayed based on the demand from the client user of the arbitration in two or more above-mentioned client users The information processor characterized by having an offer means to offer the information within the above-mentioned storage means to the client user of the demand origin concerned.

[Claim 4] The above-mentioned storage means is the function of a device, the engine performance, and an information processor according to claim 3 characterized by the thing of a condition for which which information is memorized at least as information about two or more above-mentioned devices.

[Claim 5] The information processor characterized by having the display-control means on which the information about two or more groups who did grouping of two or more above-mentioned devices which are usable information processors and have been transmitted from the server on the above-mentioned network in two or more devices which have the function of arbitration through a network is displayed.

[Claim 6] The above-mentioned display-control means is an information processor according to claim 5 characterized by displaying the information about the device belonging to the group of the arbitration in two or more above-mentioned groups.

[Claim 7] The information processor according to claim 5 characterized by having a directions means to direct to determine the device which corresponds according to predetermined conditions to the above-mentioned server out of the device belonging to the group of the arbitration in two or more above-mentioned groups.

[Claim 8] The information processor according to claim 7 characterized by having a setting-out means to set up the above-mentioned predetermined conditions.

[Claim 9] The information processor characterized by to have a storage means are the information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network, and memorize the information about two or more groups who did the grouping of two or more above-mentioned devices, and an offer means offer the information within the above-mentioned storage means to the client user of the demand origin concerned based on the demand from the client user of the arbitration in two or more above-mentioned client users.

[Claim 10] It is the information processor according to claim 9 which the above-mentioned storage means memorizes the information about two or more above-mentioned devices, and is characterized by the above-mentioned offer means offering the information about the device belonging to the group of the arbitration in two or more above-mentioned groups directed by the above-mentioned client user within the above-mentioned storage means to the client user of the above-mentioned demand origin.

[Claim 11] The information processor according to claim 9 characterized by having a decision means to determine the device which corresponds according to predetermined conditions out of the device belonging to the group of the arbitration in two or more above-mentioned groups, based on the directions from the client user of the above-mentioned demand origin.

[Claim 12] It is the information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network. The 1st storage means which memorizes the information about two or more user groups which carried out grouping of two or more above-mentioned client users, The 2nd storage means which memorizes the information about the device which has a royalty in two or more above-mentioned devices about each of two or more above-mentioned user groups, The information processor characterized by having the management tool which makes usable [the client user concerned] the device specified by the client user of the arbitration in two or more above-mentioned client users based on the content of storage of the storage means of the above 1st, and the storage means of the above 2nd.

[Claim 13] It is the network system which two or more devices are the network systems which it comes to connect each other possible [a communication link] through a network, and is characterized by at least one device having the function of an information processor given in any of claims 1-12 they are among two or more above-mentioned devices.

[Claim 14] The device management method characterized by including the display-control step on which the map information which has imitated and arranged the display object which shows two or more above-mentioned devices to physical space is displayed based on the information about two or more above-mentioned devices which are device management methods for two or more client users to use two or more devices through a network, and have been transmitted from the server on the above-mentioned network.

[Claim 15] The above-mentioned display-control step is a device management method according to claim 14 characterized by including the function of the device shown using the information about two or more above-mentioned devices, the engine performance, and the step on which which information is displayed at least with the display object of a condition which shows the above-mentioned device.

[Claim 16] The storage step which is a device management method for two or more client users to use two or more devices through a network, and memorizes the information about two or more above-mentioned devices for a storage means, So that the map information which has imitated and arranged the display object which shows two or more above-mentioned devices using the information within the above-mentioned storage means to physical space can be displayed based on the demand from the client user of the arbitration in two or more above-mentioned client users The device management method characterized by including the offer step which offers the information within the above-mentioned storage means to the client user of the demand origin concerned.

[Claim 17] The above-mentioned storage step is the function of a device, the engine performance, and a device management method according to claim 16 characterized by including the step of a condition which memorizes which information for the above-mentioned storage means at least as information about two or more above-mentioned devices.

[Claim 18] The device management method characterized by including the display-control step on which the information about two or more groups who did grouping of two or more above-mentioned devices which are device management methods for two or more client users to use two or more devices through a network, and have been transmitted from the server on the above-mentioned network is displayed.

[Claim 19] The above-mentioned display-control step is a device management method according to claim 18 characterized by including the step on which the information about the device belonging to the group of the arbitration in two or more above-mentioned groups is displayed.

[Claim 20] The device management method according to claim 18 characterized by including the directions step which directs to determine the device which corresponds according to predetermined conditions to the above-mentioned server out of the device belonging to the group of the arbitration in two or more above-mentioned groups.

[Claim 21] The device management method according to claim 20 characterized by including the setting-out step which sets up the above-mentioned predetermined conditions.

[Claim 22] The device management method characterized by to be included the storage step which is a device management method for two or more client users to use two or more devices through a network, and memorizes the information about two or more groups who did grouping of two or more above-mentioned devices for a storage means, and the offer step which offer the information within the above-mentioned storage means to the client user of the demand origin concerned based on the demand from the client user of the arbitration in two or more above-mentioned client users.

[Claim 23] The above-mentioned offer step is the device management method according to claim 22 characterized by to be included the step which offers the information about the device belonging to the group of the arbitration in two or more

above-mentioned groups directed by the above-mentioned client user within the above-mentioned storage means to the client user of the above-mentioned demand origin including the step which memorizes the information about the device of the above-mentioned plurality [step / above-mentioned / storage] for the above-mentioned storage means.

[Claim 24] The device management method according to claim 22 characterized by including the decision step which determines the device which corresponds according to predetermined conditions out of the device belonging to the group of the arbitration in two or more above-mentioned groups based on the directions from the client user of the above-mentioned demand origin.

[Claim 25] It is a device management method for two or more client users to use two or more devices through a network. The 1st storage step which memorizes the information about two or more user groups which carried out grouping of two or more above-mentioned client users for the 1st storage means, The 2nd storage step which memorizes the information about the device which has a royalty in two or more above-mentioned devices about each of two or more above-mentioned user groups for the 2nd storage means, The device management method characterized by including the management step which makes usable [the client user concerned] the device specified by the client user of the arbitration in two or more above-mentioned client users based on the content of storage of the storage means of the above 1st, and the storage means of the above 2nd.

[Claim 26] The processing step which is a device management method for two or more users to use two or more devices through a network, and the server on the above-mentioned network performs Each function of two or more above-mentioned devices, the engine performance, and the device information storage step of the location that memorizes which information at least, Two or more above-mentioned users' access privilege, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at least, The device information grouping step which carries out grouping of the device information memorized by the account of device information 100 million above-mentioned step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, The information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step The offer step offered to the demand origin through the above-mentioned network is included. A processing step in case the registered user corresponding to User Information memorized by the above-mentioned User Information storage step uses the device of the arbitration on the above-mentioned network The User Information transmitting step at which the above-mentioned registered user side transmits User Information to the above-mentioned server, The above-mentioned server is based on the grouping information on the above-mentioned device information grouping step, and the grouping information on the above-mentioned User Information grouping step. The transmitting step at which the user group into which User Information transmitted from the above-mentioned registered user side is registered transmits the information about an usable device group to the above-mentioned registered user side, The map creation step which creates the map information to which the above-mentioned registered user side has imitated and arranged the metaphor of the device shown using the information concerned to the physical space where a actual device exists based on the information transmitted from the above-mentioned server, The device management method characterized by including the display step to which the above-mentioned registered user side carries out a screen display of the map information created by the above-mentioned map creation step.

[Claim 27] The device management method according to claim 26 characterized by including the pointer display step which displays the pointer for choosing the metaphor which expresses the device of arbitration on the display screen by the above-mentioned display step, and the control step for judging that the metaphor of arbitration was chosen by the above-mentioned pointer.

[Claim 28] The device management method according to claim 27 characterized by including the detailed information display step which displays the detailed information of the device corresponding to the metaphor chosen by the above-mentioned pointer.

[Claim 29] About the metaphor whose user group to which the above-mentioned registered user belongs on the display screen by the above-mentioned display step is the attribute of device output addition The display modification step changed into a display which tells the above-mentioned registered user the image which cannot choose the metaphor concerned, When the above-mentioned registered user tries to choose the above-mentioned metaphor to which the output is forbidden in the user group to which the above-mentioned registered user changed by the above-mentioned display modification step belongs, The device management method according to claim 26 characterized by including the control step which performs control which does not receive the selection directions from the above-mentioned registered user.

[Claim 30] The above-mentioned control step is a device management method according to claim 26 characterized by including the step which outputs the message or beep sound which shows warning to the above-mentioned registered user.
[Claim 31] The processing step which is a device management method for two or more users to use two or more devices through a network, and the server on the above-mentioned network performs Each function of two or more above-mentioned devices, the engine performance, and the device information storage step of the location that memorizes which information at least, Two or more above-mentioned users' access privilege, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at least, The device information grouping step which carries out grouping of the device information memorized by the account of device information 100 million above-mentioned step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, The information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step The offer step offered to the demand origin through the above-mentioned network is included. A processing step in case the registered user corresponding to User Information memorized by the above-mentioned User Information storage step uses the device of the arbitration on the above-mentioned network The User Information transmitting step at which the above-mentioned registered user side transmits User Information to the above-mentioned server, The above-mentioned server is based on the grouping information on the above-mentioned device information grouping step, and the grouping information on the above-mentioned User Information grouping step. The transmitting step at which the user group into which User Information transmitted from the above-mentioned registered user side is registered transmits the information about an usable device group to the above-mentioned registered user side, The device management method which carries out the description of the display step to which the above-mentioned registered user side carries out a screen display of the information transmitted from the above-mentioned server being included.
[Claim 32] The device management method according to claim 31 characterized by including the sort step into which the above-mentioned server rearranges automatically the information on the device belonging to the device group concerned shown using the information about the device group which transmits to a registered user side by the above-mentioned transmitting step based on predetermined setting-out information.
[Claim 33] The device management method according to claim 31 characterized by including the querying step which asks whether the activity of the device of the arbitration on the above-mentioned network is permitted because the above-mentioned registered user side accesses to the above-mentioned server.
[Claim 34] The device management method according to claim 31 to which the device on the above-mentioned network is characterized by including the advice step of a device side of functional information, status information, and change-of-state information which notifies which information to the above-mentioned server serially at least.
[Claim 35] The device management method according to claim 31 characterized by including the execute step which performs a processing activation demand to the device of the arbitration chosen by the display screen by the above-mentioned display step.
[Claim 36] The device management method according to claim 31 characterized by including the execute step to which the above-mentioned server determines the device which carries out processing activation as a meaning, and gives a processing activation demand to the determined device concerned out of the device belonging to the device group which transmitted to the above-mentioned user side based on directions from the above-mentioned registered user.
[Claim 37] The above-mentioned execute step is a device management method according to claim 36 characterized by including the step which determines the above-mentioned device based on the information offered by the device agent who manages the information about the device managed by the above-mentioned server, or device information, and performs information offer actively to a server or a user.
[Claim 38] The above-mentioned execute step is the device which carries out processing termination at a high speed, or a device management method according to claim 37 characterized by including the step which determines a near device physically from a user most.
[Claim 39] The sequence that processing ends most the information on the device belonging to the device group concerned at a high speed in case the above-mentioned server transmits the information about a device group to the above-mentioned registered user by the above-mentioned transmitting step, or the device management method according to claim 31 most characterized by including the sort step physically sorted in near sequence from a user.
[Claim 40] The processing step which is a device management method for two or

more users to use two or more devices through a network, and the server on the above-mentioned network performs Each function of two or more above-mentioned devices, the engine performance, and the device information storage step of the location that memorizes which information at least, Two or more above-mentioned users' access privilege, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at least, The printer information grouping step which carries out grouping of the device information memorized by the account of device information 100 million above-mentioned step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, The device management method characterized by including the offer step which offers the information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step to the demand origin through the above-mentioned network.

[Claim 41] The User Information enquiry demand step to which the user side of arbitration publishes the User Information enquiry demand to the above-mentioned server when a processing activation demand publishes to the device on the above-mentioned network, The device group to which the device in which the above-mentioned server is shown by the above-mentioned User Information enquiry demand belongs, The retrieval step which searches the user group to which the user of the above-mentioned User Information enquiry demand origin belongs, The response step which the above-mentioned server answers to the user of the above-mentioned User Information enquiry demand origin in the retrieval result in the above-mentioned retrieval step, The device management method according to claim 40 characterized by including the processing activation demand step to which the above-mentioned user side publishes the processing activation demand to the above-mentioned device based on the response by the above-mentioned response step.

[Claim 42] The above-mentioned response step is a device management method according to claim 41 characterized by including the step which answers including the information about the device shown by the above-mentioned User Information enquiry demand.

[Claim 43] The device management method according to claim 40 to which the device on the above-mentioned network is characterized by including the advice step of a device side of functional information, status information, and change-of-state information which notifies which information to the above-mentioned server serially at least.

[Claim 44] The device management method according to claim 40 characterized by including the updating step to which the above-mentioned server updates storage information based on advice by the above-mentioned advice step of a device side.

[Claim 45] The device management method according to claim 40 characterized by including the registration step which makes it possible to register one User Information by the above-mentioned User Information storage step to two or more user groups depended on the above-mentioned User Information grouping step.

[Claim 46] The device management method according to claim 40 characterized by including the registration step which makes it possible to register one device information by the above-mentioned device information storage step to two or more device groups depended on the above-mentioned device information grouping step.

[Claim 47] The device management method according to claim 40 characterized by including the registration step which makes it possible to register one device information for it to be possible in registering one User Information by the above-mentioned User Information storage step to two or more user groups depended on the above-mentioned User Information grouping step, and according to the above-mentioned device information storage step to two or more device groups depended on the above-mentioned device information grouping step.

[Claim 48] The device management method according to claim 40 characterized by the above-mentioned user side containing the access step which enables access and/or modification of the storage information on the above-mentioned server through the above-mentioned network.

[Claim 49] As for the above-mentioned access step, the above-mentioned server memorizes authorization/disapproval of access to an access authorization storage region for every user. Authorization/disapproval of the right of modification of storage information are memorized to a modification authorization storage region. From User Information of access demand origin It searches whether access is permitted according to the above-mentioned access authorization storage region applicable to the user concerned. Authorization or the disapproval of access is performed according to the retrieval result. From User Information of change-request origin The device management method according to claim 48 characterized by including the step which searches whether access is permitted according to the above-mentioned modification authorization storage region applicable to the user concerned, and performs authorization or refusal of modification according to the retrieval result.

[Claim 50] The device management method according to claim 40 to which the above-mentioned server is characterized by to be included the output step of above-mentioned User Information, the user-group information to which the above-mentioned user belongs, the above-mentioned device information, and the device group information to which the above-mentioned device belongs which outputs which information as interleaving paper of the above-mentioned processing activation at least when a processing activation demand publishes [the user side of arbitration] to the device on the above-mentioned network.

[Claim 51] synchronous step **** which takes the synchronization of the above-mentioned device information, the above-mentioned device group information, above-mentioned User Information, and the above-mentioned user-group information by the communication link between the equipment concerned or a system when two or more the equipment or the systems which have the function of the above-mentioned server exist in the above-mentioned network -- the device management method according to claim 40 characterized by things.

[Claim 52] The storage which recorded the program for making a computer realize the function of an information processor given in any of claims 1-12 they are, or the function of a network system according to claim 13 and in which computer read-out is possible.

[Claim 53] The storage which recorded the program for making a computer perform the processing step of a device management method given in any of claims 14-51 they are and in which computer reading is possible.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the storage which stored the processing step for carrying an information processor, a network system, a device management method, and it out applied to the network system under the environment where two or more devices (output unit etc.) and the terminal units by the side of a user (a workstation, personal computer, etc.) were connected through the network, the client software or a device driver, etc. possible [read-out of a computer].

[0002]

[Description of the Prior Art] In recent years, it is performed that two or more users own information jointly between, connecting various computers and the peripheral device of those for example, so that information can be communicated in both directions, and building a computer network (only henceforth a "network" or a "network system"), and aim at distribution of the load of information processing on the network concerned by it.

[0003] By high-performance-izing and a miniaturization, and a cost cut with - computer are the technique in which it is in the limelight when becoming possible to raise productivity and effectiveness by leaps and bounds, and rapid as this main reason, the above network techniques could be easily used as altitude and a high-speed information processing means, even if it was a computer aiming at a personal youth.

- Development of the high-speed-data communication technology according to wireless to a cable list.
- Osmosis of distributed-processing architecture.

** is mentioned.

[0004] Specifically, the way of thinking that output units, such as a copying machine, and a printer or facsimile apparatus (FAX), also arrange such an output unit to up to a network (connection), and they use it, sharing between two or more users although it was used as a peripheral device connected to one set of a stand-alone or a host computer until now in most cases is beginning to spread widely. Furthermore, it is possible to become possible to share between two or more users the information accumulated in the file, the database, etc., consequently to raise productivity and effectiveness by leaps and bounds by connecting to up to a network the terminal units (a mainframe, a workstation, personal computer, etc.) using a computer which was mentioned above.

[0005] By the way, a network is small-scale, and when there are few output units connected on the network, it is comparatively easy for a user to have full knowledge for the function with which each output unit was equipped, or the engine performance.

Moreover, a user can discover comparatively easily also about recognition of whether some output units are performing the output by other users, and the problem having occurred in the output unit.

[0006] On the other hand, the output engine performance for which each has an output unit differs in many cases. For example, about a printer, various printers are appearing like in the printer which has advanced functions, such as a printer in which the output of color information is possible, a sort function, a staple function, a punch function, and a bookbinding function, the printer further designed through the network concerned by making into a background the spread of networks which were mentioned above so that it might be available.

[0007] As mentioned above, the merit which builds a network is large and is permeating in various fields, such as office, and works, a lab or educational facilities.

[0008]

[Problem(s) to be Solved by the Invention] However, although the conventional network system which was mentioned above has a big merit about the output unit on a network being sharable by two or more users, if the number of an output unit also increases so that it may be proportional to this, consequently network magnitude becomes large as the number of users increases, following various problems will occur.

[0009] (1) In the big network of magnitude, it is very difficult for a user to have full knowledge to the engine performance and function about all the output units connected to up to a network. For this reason, efficient employment of the output unit connected to up to a network is not performed, and improvement in the effectiveness of the whole organization which has the network, or productivity may be unable to plan as planned.

[0010] (2) By a user's failure, generating of the mistake output in the output unit whose intention the user does not have can be considered. The printer whose intention the user concerned does not have may be used by the failure of the user of arbitration who specifically uses the network. If the print (misprint) in such a printer is generated mostly, other convenience and productivity of a user may be spoiled. Moreover, possibility that the content of the print-out will touch the 3rd person's eyes by the misprint to the print which a user does not mean occurs, and there is a big problem also in terms of the security protection of a print-out.

[0011] (3) Whenever it considers from the condition of an output unit, a user's output request cannot necessarily be met according to the condition of an output unit. When the output by User A, failure of a staple function during generating of a jam and inspection and repair, etc. have occurred in Printer A, even if User's B output request generates Printer A, specifically, it is impossible to process the demand promptly. In such a case, if User B grasps the condition of Printer A correctly, it is possible to change to the printer B of other normal states, and to carry out an output request, but if network magnitude is large, it will become difficult to grasp the condition of Printer B expected that User B will perform the output request. The inclination will become large if Printer B is physically separated especially.

[0012] Then, in order to solve above problem (1) - (3), the configuration which carries the output assistance system exists to a server, the operating system of a workstation or a personal computer, etc., but when it is the configuration of employing two or more systems in a network top, and a different output unit of a type, there are also problems, such as compatibility, and it cannot necessarily be said with the configuration by the conventional above-mentioned output assistance system that it is enough.

[0013] Then, this invention aims at offering the storage which stored the processing step for carrying an information processor, a network system, a device management method, and it out which accomplished in order to remove the above-mentioned fault, and can use efficiently the device for which a user asks even if it is the large-scale network system with which two or more users can share two or more devices possible [read-out of a computer].

[0014]

[Means for Solving the Problem] It is an usable information processor about two or more devices with which the 1st invention has the function of arbitration through a network under this object, It is characterized by to have the display-control means on which the map information which has imitated and arranged the display object which shows two or more above-mentioned devices to physical space is displayed based on the information about two or more above-mentioned devices transmitted from the server on the above-mentioned network.

[0015] 2nd invention is characterized by the above-mentioned display-control means displaying which information at least with the display object of the function of the device shown using the information about two or more above-mentioned devices, the engine performance, and a condition which shows the above-mentioned device in the 1st above-mentioned invention.

[0016] A storage means for the 3rd invention to be an information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network, and to memorize the information about two or more above-mentioned devices, So that the map information which has

imitated and arranged the display object which shows two or more above-mentioned devices using the information within the above-mentioned storage means to physical space can be displayed based on the demand from the client user of the arbitration in the client user of the above-mentioned plurality It is characterized by having an offer means to offer the information within the above-mentioned storage means to the client user of the demand origin concerned.

[0017] 4th invention is characterized by the thing of the function of a device, the engine performance, and a condition for which which information is memorized at least in the 3rd above-mentioned invention as information about the device of the above-mentioned plurality [means / above-mentioned / storage].

[0018] 5th invention is characterized by having the display-control means on which the information about two or more groups who did grouping of two or more above-mentioned devices which are usable information processors and have been transmitted from the server on the above-mentioned network in two or more devices which have the function of arbitration through a network is displayed.

[0019] It is characterized by the 6th invention displaying the information about the device with which the above-mentioned display-control means belongs to the group of the arbitration in two or more above-mentioned groups in the 5th above-mentioned invention.

[0020] 7th invention is characterized by having a directions means to direct to determine the device which corresponds according to predetermined conditions to the above-mentioned server out of the device belonging to the group of the arbitration in two or more above-mentioned groups in the 5th above-mentioned invention.

[0021] 8th invention is characterized by having a setting-out means to set up the above-mentioned predetermined conditions in the 7th above-mentioned invention.

[0022] The 9th invention is an information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network. A storage means to memorize the information about two or more groups who did grouping of two or more above-mentioned devices, It is characterized by having an offer means to offer the information within the above-mentioned storage means to the client user of the demand origin concerned, based on the demand from the client user of the arbitration in the client user of the above-mentioned plurality.

[0023] The 10th invention memorizes the information about the device of the above-mentioned plurality [means / above-mentioned / storage] in the 9th above-mentioned invention, and the above-mentioned offer means is characterized by to offer the information about the device belonging to the group of the arbitration in two or more above-mentioned groups directed by the above-mentioned client user within the above-mentioned storage means to the client user of the above-mentioned demand origin.

[0024] 11th invention is characterized by having a decision means to determine the device which corresponds according to predetermined conditions out of the device belonging to the group of the arbitration in two or more above-mentioned groups, based on the directions from the client user of the above-mentioned demand origin in the 9th above-mentioned invention.

[0025] The 12th invention is an information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network. The 1st storage means which memorizes the information about two or more user groups which carried out grouping of the client user of the above-mentioned plurality, The 2nd storage means which memorizes the information about the device which has a royalty in two or more above-mentioned devices about each of the user group of the above-mentioned plurality, It is characterized by having the management tool which makes usable [the client user concerned] the device specified by the client user of the arbitration in two or more above-mentioned client users based on the content of storage of the storage means of the above 1st, and the storage means of the above 2nd.

[0026] The 13th invention is a network system with which it comes to connect two or more devices of each other possible [a communication link] through a network, and at least one device is characterized by having the function of an information processor given in any of claims 1-12 they are among two or more above-mentioned devices.

[0027] The 14th invention is a device management method for two or more client users to use two or more devices through a network, It is characterized by including the display-control step on which the map information which has imitated and arranged the display object which shows two or more above-mentioned devices to physical space is displayed based on the information about two or more above-mentioned devices transmitted from the server on the above-mentioned network.

[0028] 15th invention is characterized by the above-mentioned display-control step containing the function of the device shown using the information about two or more above-mentioned devices, the engine performance, and the step on which which

information is displayed at least with the display object of a condition which shows the above-mentioned device in the 14th above-mentioned invention.

[0029] The 16th invention is a device management method for two or more client users to use two or more devices through a network, the storage step which memorizes the information about two or more above-mentioned devices for a storage means, So that the map information which has imitated and arranged the display object which shows two or more above-mentioned devices using the information within the above-mentioned storage means to physical space can be displayed based on the demand from the client user of the arbitration in the client user of the above-mentioned plurality It is characterized by including the offer step which offers the information within the above-mentioned storage means to the client user of the demand origin concerned.

[0030] 17th invention is characterized by the above-mentioned storage step containing the function of a device, the engine performance, and the step of a condition that memorizes which information for the above-mentioned storage means at least as information about two or more above-mentioned devices in the 16th above-mentioned invention.

[0031] The 18th invention is a device management method for two or more client users to use two or more devices through a network, It is characterized by including the display-control step on which the information about two or more groups who did grouping of two or more above-mentioned devices transmitted from the server on the above-mentioned network is displayed.

[0032] 19th invention is characterized by the above-mentioned display-control step containing the step on which the information about the device belonging to the group of the arbitration in two or more above-mentioned groups is displayed in the 18th above-mentioned invention.

[0033] 20th invention is characterized by including the directions step which directs to determine the device which corresponds according to predetermined conditions to the above-mentioned server out of the device belonging to the group of the arbitration in two or more above-mentioned groups in the 18th above-mentioned invention.

[0034] 21st invention is characterized by including the setting-out step which sets up the above-mentioned predetermined conditions in the 20th above-mentioned invention.

[0035] The 22nd invention is a device management method for two or more client users to use two or more devices through a network. The storage step which memorizes the information about two or more groups who did grouping of the device of the above-mentioned plurality for a storage means, It is characterized by including the offer step which offers the information within the above-mentioned storage means to the client user of the demand origin concerned based on the demand from the client user of the arbitration in the client user of the above-mentioned plurality.

[0036] The above-mentioned offer step carries out containing the step which offers to the client user of above-mentioned demand origin in the information about the device belonging to the group of the arbitration in two or more above-mentioned groups directed by the above-mentioned client user within the above-mentioned storage means as the description including the step the 23rd invention remembers the information about the device of the above-mentioned plurality [step / above-mentioned / storage] to be for the above-mentioned storage means in the 22nd above-mentioned invention.

[0037] 24th invention is characterized by including the decision step which determines the device which corresponds according to predetermined conditions out of the device belonging to the group of the arbitration in two or more above-mentioned groups based on the directions from the client user of the above-mentioned demand origin in the 22nd above-mentioned invention.

[0038] The 25th invention is a device management method for two or more client users to use two or more devices through a network. The 1st storage step which memorizes the information about two or more user groups which carried out grouping of two or more above-mentioned client users for the 1st storage means, The 2nd storage step which memorizes the information about the device which has a royalty in two or more above-mentioned devices about each of the user group of the above-mentioned plurality for the 2nd storage means, It is characterized by including the management step which makes usable [the client user concerned] the device specified by the client user of the arbitration in two or more above-mentioned client users based on the content of storage of the storage means of the above 1st, and the storage means of the above 2nd.

[0039] The 26th invention is a device management method for two or more users to use two or more devices through a network, The processing step which the server on the above-mentioned network performs Each function of the device of the above-mentioned plurality, the engine performance, and the device information storage step of the location that memorizes which information at least, Two or more above-mentioned users' access privilege, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at

least, The device information grouping step which carries out grouping of the device information memorized by the account of device information 100 million above-mentioned step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, The information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step The offer step offered to the demand origin through the above-mentioned network is included. A processing step in case the registered user corresponding to User Information memorized by the above-mentioned User Information storage step uses the device of the arbitration on the above-mentioned network The User Information transmitting step at which the above-mentioned registered user side transmits User Information to the above-mentioned server, The above-mentioned server is based on the grouping information on the above-mentioned device information grouping step, and the grouping information on the above-mentioned User Information grouping step. The transmitting step at which the user group into which User Information transmitted from the above-mentioned registered user side is registered transmits the information about an usable device group to the above-mentioned registered user side, The map creation step which creates the map information to which the above-mentioned registered user side has imitated and arranged the metaphor of the device shown using the information concerned to the physical space where a actual device exists based on the information transmitted from the above-mentioned server, The above-mentioned registered user side is characterized by including the display step which carries out a screen display of the map information created by the above-mentioned map creation step.

[0040] The 27th invention is a pointer display step which displays the pointer for choosing the metaphor which expresses the device of arbitration on the display screen by the above-mentioned display step in the 26th above-mentioned invention, It is characterized by including the control step for judging that the metaphor of arbitration was chosen by the above-mentioned pointer.

[0041] 28th invention is characterized by including the detailed information display step which displays the detailed information of the device corresponding to the metaphor chosen by the above-mentioned pointer in the 27th above-mentioned invention.

[0042] In an according [the 29th invention / on the 26th above-mentioned invention and] to above-mentioned display step display screen top The display modification step changed into a display which tells the above-mentioned registered user the image which cannot choose the metaphor concerned about the metaphor whose user group to which the above-mentioned registered user belongs is the attribute of device output addition, When the above-mentioned registered user tries to choose the above-mentioned metaphor to which the output is forbidden in the user group to which the above-mentioned registered user changed by the above-mentioned display modification step belongs, It is characterized by including the control step which performs control which does not receive the selection directions from the above-mentioned registered user.

[0043] 30th invention is characterized by the above-mentioned control step containing the step which outputs the message or beep sound which shows warning to the above-mentioned registered user in the 26th above-mentioned invention.

[0044] The 31st invention is a device management method for two or more users to use two or more devices through a network, The processing step which the server on the above-mentioned network performs Each function of two or more above-mentioned devices, the engine performance, and the device information storage step of the location that memorizes which information at least, The access privilege of the user of the above-mentioned plurality, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at least, The device information grouping step which carries out grouping of the device information memorized by account of above-mentioned device information 100 million step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, The information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step The offer step offered to the demand origin through the above-mentioned network is included. A processing step in case the registered user corresponding to User Information memorized by the above-mentioned User Information storage step uses the device of the arbitration on the above-mentioned network The User Information transmitting step at which the above-mentioned registered user side transmits User Information to the above-mentioned server, The above-mentioned server is based on the grouping information on the above-mentioned device information grouping step, and the grouping information on the above-mentioned User Information grouping step. The transmitting step at which the user group into which User Information transmitted from the above-mentioned registered user side is registered transmits the information

about an usable device group to the above-mentioned registered user side, The above-mentioned registered user side carries out the description of the display step which carries out a screen display of the information transmitted from the above-mentioned server being included.

[0045] 32nd invention is characterized by including the sort step into which the above-mentioned server rearranges automatically the information on the device belonging to the device group concerned shown using the information about the device group which transmits to a registered user side by the above-mentioned transmitting step based on predetermined setting-out information in the 31st above-mentioned invention.

[0046] In the 31st above-mentioned invention, the above-mentioned registered user side is accessing to the above-mentioned server, and 33rd invention is characterized by including the querying step which asks whether the activity of the device of the arbitration on the above-mentioned network is permitted.

[0047] 34th invention is characterized by the device on the above-mentioned network containing the advice step of a device side of functional information, status information, and change-of-state information which notifies which information to the above-mentioned server serially at least in the 31st above-mentioned invention.

[0048] 35th invention is characterized by including the execute step which performs a processing activation demand to the device of the arbitration chosen by the display screen by the above-mentioned display step in the 31st above-mentioned invention.

[0049] It carries out that the 36th invention contains the execute step to which the above-mentioned server determines the device which carries out processing activation as a meaning, and gives a processing activation demand to the determined device concerned in the 31st above-mentioned invention out of the device belonging to the device group which transmitted to the above-mentioned user side based on directions from the above-mentioned registered user as the description.

[0050] 37th invention is characterized by the above-mentioned execute step containing the step which determines the above-mentioned device based on the information offered by the device agent who manages the information about the device managed by the above-mentioned server, or device information, and performs information offer actively to a server or a user in the 36th above-mentioned invention.

[0051] In the 37th above-mentioned invention, the above-mentioned execute step is most characterized by including the device which carries out processing termination at a high speed, or the step which determines a near device physically from a user by the 38th invention.

[0052] In the 31st above-mentioned invention, 39th invention is most characterized by including the sequence that processing ends most the information on the device belonging to the device group concerned at a high speed, or the sort step sorted in near sequence physically from a user, in case the above-mentioned server transmits the information about a device group to the above-mentioned registered user by the above-mentioned transmitting step.

[0053] The 40th invention is a device management method for two or more users to use two or more devices through a network, The processing step which the server on the above-mentioned network performs Each function of the device of the above-mentioned plurality, the engine performance, and the device information storage step of the location that memorizes which information at least, The access privilege of the user of the above-mentioned plurality, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at least, The printer information grouping step which carries out grouping of the device information memorized by account of above-mentioned device information 100 million step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, It is characterized by including the offer step which offers the information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step to the demand origin through the above-mentioned network.

[0054] The User Information enquiry demand step to which the 41st invention publishes the User Information enquiry demand to the above-mentioned server when a processing activation demand publishes [the user side of arbitration] to the device on the above-mentioned network in the 40th above-mentioned invention, The device group to which the device in which the above-mentioned server is shown by the above-mentioned User Information enquiry demand belongs, The retrieval step which searches the user group to which the user of the above-mentioned User Information enquiry demand origin belongs, The response step which the above-mentioned server answers to the user of the above-mentioned User Information enquiry demand origin in the retrieval result in the above-mentioned retrieval step, The above-mentioned user side is characterized by including the processing activation demand step which publishes the processing activation demand to the above-mentioned device based on the response by the above-mentioned response step.

[0055] 42nd invention is characterized by the above-mentioned response step

containing the step which answers including the information about the device shown by the above-mentioned User Information enquiry demand in the 41st above-mentioned invention.

[0056] 43rd invention is characterized by the device on the above-mentioned network containing the advice step of a device side of functional information, status information, and change-of-state information which notifies which information to the above-mentioned server serially at least in the 40th above-mentioned invention.

[0057] 44th invention is characterized by the above-mentioned server containing the updating step which updates storage information based on advice by the above-mentioned advice step of a device side in the 40th above-mentioned invention.

[0058] 45th invention is characterized by including the registration step which makes it possible to register one User Information by the above-mentioned User Information storage step to two or more user groups depended on the above-mentioned User Information grouping step in the 40th above-mentioned invention.

[0059] 46th invention is characterized by including the registration step which makes it possible to register one device information by the above-mentioned device information storage step to two or more device groups depended on the above-mentioned device information grouping step in the 40th above-mentioned invention.

[0060] In the 40th above-mentioned invention, the 47th invention is possible in registering one User Information by the above-mentioned User Information storage step to two or more user groups depended on the above-mentioned User Information grouping step, and is characterized by including the registration step which makes it possible to register one device information by the above-mentioned device information storage step to two or more device groups depended on the above-mentioned device information grouping step.

[0061] 48th invention is characterized by the above-mentioned user side containing the access step which enables access and/or modification of the storage information on the above-mentioned server through the above-mentioned network in the 40th above-mentioned invention.

[0062] The 49th invention is set to the 48th above-mentioned invention. The above-mentioned access step The above-mentioned server memorizes authorization/disapproval of access to an access authorization storage region for every user. Authorization/disapproval of the right of modification of storage information are memorized to a modification authorization storage region. From User Information of access demand origin It searches whether access is permitted according to the above-mentioned access authorization storage region applicable to the user concerned. Authorization or the disapproval of access is performed according to the retrieval result. From User Information of change-request origin It searches whether access is permitted according to the above-mentioned modification authorization storage region applicable to the user concerned, and is characterized by including the step which performs authorization or refusal of modification according to the retrieval result.

[0063] The user side of arbitration carries out [invention / 50th] containing the output step of above-mentioned User Information, the user-group information to which the above-mentioned user belongs, the above-mentioned device information, and the device group information to which the above-mentioned device belongs which outputs which information as interleaving paper of the above-mentioned processing activation at least as the description in the above-mentioned server in the 40th above-mentioned invention, when a processing activation demand publishes to the device on the above-mentioned network.

[0064] synchronous step **** which takes the synchronization of the above-mentioned device information, the above-mentioned device group information, above-mentioned User Information, and the above-mentioned user-group information by the communication link between the equipment concerned or a system when two or more the equipment or the systems by which the 51st invention has the function of the above-mentioned server in the above-mentioned network in the 40th above-mentioned invention exist — it is characterized by things.

[0065] 52nd invention is characterized by recording the program for making a computer realize the function of an information processor given in any of claims 1-12 they are, or the function of a network system according to claim 13 on the storage in which computer read-out is possible.

[0066] 53rd invention is characterized by recording the program for making a computer perform the processing step of a device management method given in any of claims 14-51 they are on the storage in which computer read-out is possible.

[0067] Specifically, according to this invention, following configuration (1) - (3) is realizable.

[0068] (1) To the bottom of the environments (the workstation which a user uses, a personal computer, terminal unit, etc.) where it connected through the network, a two or more device (output units, such as copying machine, printer, and facsimile apparatus) and user side collects the information on the device on a network, and carries out grouping of the server on a network on condition that arbitration

(parameters for every function, every engine performance, and every location). Moreover, the right of an output of every access privilege and DEBAISUHE (every etc.) carries out grouping of User Information of two or more users who use a device from on a network on condition that arbitration. And the various above-mentioned information is offered to the demand (demand from a device, a user, a manager, etc.) which minds a network for User Information or device information which groups-involved-ization normalized.

[0069] on the other hand , with the terminal unit by the side of ** which have client software or a device driver (client equipment) etc. , it be access to a server , and a user side acquire the device information (positional information of a device etc.) connected to the network , it can display the device on a network in a map format (map information) from the physical distance relation in the space in which the network be install , and express it as a metaphor on the map format concerned .

[0070] You may make it display the information about the device concerned acquired from the server with the metaphor of a device, or the information about the device group to which the device concerned belongs in the above configurations.

[0071] (2) To the bottom of the environments (the workstation which a user uses, a personal computer, terminal unit, etc.) where it connected through the network, a two or more device (output units, such as copying machine, printer, and facsimile apparatus) and user side collects the information on the device on a network, and carries out grouping of the server on a network on condition that arbitration (parameters for every function, every engine performance, and every location). Moreover, the right of an output of every access privilege and DEBAISUHE (every etc.) carries out grouping of User Information of two or more users who use a device from on a network on condition that arbitration. And the various above-mentioned information is offered to the demand (demand from a device, a user, a manager, etc.) which minds a network for User Information or device information which groups-involved-ization normalized.

[0072] On the other hand, it is required that a user side should search the device group to which the device concerned belongs to a server based on the parameters (a function, engine performance, location, etc.) about the device which carries out activity hope with the terminal unit by the side of ** which has client software or a device driver (client equipment) etc. in case the device of the arbitration on a network is used (when the output in a printer etc. is performed). The device group to which a carrier beam server corresponds the above-mentioned demand based on the parameter (key) from a user is searched, and the results (information about a device group, information about the device belonging to the device group concerned, etc.) are offered to a user side. You may make it arrange the device belonging to a device group in order according to setting out from a user beforehand at this time. A user side will carry out a screen display of this, if the retrieval result from a server is received.

[0073] You may make it give the means for performing the above-mentioned setting out to a server a user side in the above configurations. Moreover, if the self-test of the own condition of a device is always carried out and the own condition of a device has change, respectively when [of a device] offering the function on a network, you may make it require renewal of the status information of a device from a server.

[0074] Moreover, a user side advances an output request by another mode of this invention to the device group managed by the server. In the device group to which a carrier beam server corresponds this, the most efficient device is determined to the user side of a requiring agency. For example, the nearest device from a user side and the device which is a device near from a user side and can be most processed at a high speed are determined. And a server requires processing activation from the determined device.

[0075] (3) To the bottom of the environments (the workstation which a user uses, a personal computer, terminal unit, etc.) where it connected through the network, a two or more device (output units, such as copying machine, printer, and facsimile apparatus) and user side collects the information on the device on a network, and carries out grouping of the server on a network on condition that arbitration (parameters for every function, every engine performance, and every location). Moreover, the right of an output of every access privilege and DEBAISUHE (every etc.) carries out grouping of User Information of two or more users who use a device from on a network on condition that arbitration. And the various above-mentioned information is offered to the demand (demand from a device, a user, a manager, etc.) which minds a network for User Information or device information which groups-involved-ization normalized.

[0076] Moreover, in another mode of this invention, a server performs retrieval with the device group to which the device a user does [a device] activity hope belongs, and the user group to which the user concerned belongs based on the demand (enquiry demand) from a user side, judges whether based on this retrieval result, there is any royalty of the device in which the user concerned is doing activity hope to the user concerned, and answers to the user side of this result demand-origin. A user side determines whether refuse the activity of the device of the user who required actually based on the response from a server. At this time, it may be made to carry out a

screen display of the information about the response from a server.

[0077] If the self-test of the own condition of a device is always carried out and the own condition of a device has change, respectively when [of a device] offering the function on a network, you may make it require renewal of the status information of a device from a server in the above configurations.

[0078] Moreover, when a server has retrieval of device information and device group information, and the demand of enquiry or modification, the user side who is a requiring agency judges whether retrieval of device information and device group information, and enquiry or modification is permitted, and performs access of device information and device group information, modification and authorization, or refusal to the user side of a requiring agency according to the decision result.

[0079]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained using a drawing.

[0080] [Gestalt of the 1st operation] this invention is applied to the network system 100 as shown in drawing 1 R> 1. The network system 100 of the gestalt of this operation is arranged in a certain space, and as shown in above-mentioned drawing 1 , equipment 111,112, the output units (device) 113, 114, 121, 122, 123, 131, and 132,133,141,142, such as a copying machine and a printer, and the server 151 for data processing are considering it as the configuration connected so that it could communicate mutually through a network 180 in the end of a user side edge which is a computer and a workstation.

[0081] An output unit 113,114 and a terminal unit 111, and 112 belong to the block 1 (Block-1) in the space where the network system 100 has been arranged. The output unit 121,122,123 belongs to the block 2 (Block-2) in the space where the network system 100 has been arranged. The output unit 131,132,133 belongs to the block 3 (Block-3) in the space where the network system 100 has been arranged. The output unit 141,142 belongs to the block 4 (Block-4) in the space where the network system 100 has been arranged.

[0082] Although a server 151 is mentioned later for details, it is the description in the gestalt of this operation, and offers the server service in a network system 100 in accordance with other functions with the function as a device management server.

[0083] The terminal unit 111,112 which a user uses functions to a server 151 as client equipment which publishes an acquisition demand of device information and device group information etc., respectively.

[0084] The engine performance differs from the function and, as for output unit 113,114,121-123,131-133,141,142 connected on the network 180 in the network system 100 of the gestalt of this operation here, a device status and an operating condition change every moment, respectively. In the former, it was dramatically difficult for a user to grasp all information, such as the location of these output units, and a function, under such system environment.

[0085] On the other hand, in the network system 100 which applied this invention, a server 151 is functioning as a device management server, and is considering as the configuration which collects various information (henceforth "device information") about the device of output unit 113,114,121-123,131-133,141,142 or client equipment 111,112 grade connected to up to a network 180, and is memorized and managed.

[0086] The terminal unit 111,112 by the side of a user (henceforth "client equipment") is equipped with the function the device information managed by the server 151, and for expressing the positional information (device positional information) of an output unit especially as a metaphor on map information (it mentioning later about the definition of a metaphor), and is that a user can grasp the location of the output unit for which it asks simply at the client equipment 111,112 side by this function.

[0087] Drawing 2 shows an example of the record format 200 for managing the information (device information) about the device on an output unit 113,114,121 - the network 180 of 123,131-133,141,142, or client equipment 111,112 grade in a server 151.

[0088] The record format 200 contains the field 201 which memorizes a device ID, the field 202 which memorizes location information on a device — which block it is — the field 203 (1) which memorizes the information on the function which the output unit concerned has when a device is an output unit, 203 (2), --, the field 204 (1) which memorizes the information on the condition of the output unit concerned, 204 (2) and --, as shown in above-mentioned drawing 2 .

[0089] The device ID memorized to a field 201 is the number of the proper of a device, and is managed by this device ID by the server 151. The location information on the device memorized to a field 202 is the information which expressed the location of a device as a coordinate. In above-mentioned drawing 2 , an object device exists in block 3 (Block-3), and the information about the coordinate (x y) in this block 3 (Block-3) is memorized to a field 202.

[0090] Therefore, package management of the server 151 can be carried out by the record format 200 of above-mentioned drawing 2 about the device on a network 180. And the server 151 has the function to offer the management information (device information) concerned to client equipment with a demand, according to the demand

of the management information from client equipment 111,112. Moreover, by the above-mentioned management information about output unit 113,114,121-123,131-133,141,142 (location contained in device information, information on a function, etc.), a server 151 carries out group registration and manages output unit 113,114,121-123,131-133,141,142 on a network 180.

[0091] Drawing 3 shows the configuration for functioning as a device management server in a server 151. As shown in above-mentioned drawing 3 , a server 151 The database 302 for User Information (DB), the database for device information by the record format 200 shown in above-mentioned drawing 2 (DB) -- 303 -- With the Management Department 305 which does comprehensive management of the database for group information of a device (DB)304, and DB 302-304 It has the updating section (renewal section of information) 306 of the information in DB 302-304, the retrieval section (information retrieval section) 307 of the information in DB 302-304, and the system management section 308 that manages employment of the network-system 100 whole etc.

[0092] The information about the user using a network system 100 is accumulated in DB302 for User Information. The device information about the device on a network 180 is accumulated in DB303 for device information by the record format 200 shown in above-mentioned drawing 2 R> 2.

[0093] Based on the device information about output unit 113,114,121-123,131-133,141,142 by the record format 200 shown in above-mentioned drawing 2 , the device group information which classified output unit 113,114,121-123,131-133,141,142 on a network 180 is arranged and accumulated in DB304 for group information of a device.

[0094] The system management section 308 receives and processes the various demands (demand of informational retrieval, enquiry, updating, etc.) from output unit 113,114,121-123,131-133,141,142 and the terminal unit 111,112 by the side of a user through a network 180. Moreover, the system management section 308 accesses the information managed by DB 302-304 through the renewal section 306 of information or the information retrieval section 307, and the DB Management Department 305 if needed. Moreover, the information managed within these servers 151 has too composition in which access and modification are possible through the network (equivalent to the configuration of claim 48).

[0095] Drawing 4 shows an example of the user interface screen (viewing window) 400 displayed with the terminal unit 111,112 by the side of a user (client equipment). This user interface screen is offered when CPU (central processing unit) client equipment carried out [CPU] the graphic display abbreviation based on the network control program installed in client equipment possible [activation] performs, and it is indicated by visible by the function of OS and a display driver at displays, such as CRT. In the viewing window 400, the condition that the metaphor of the output unit (device) by which network connection was carried out has been arranged is displayed on the map information on space that the network system 100 was built, and the map information concerned. Here, a metaphor is a display object which specifies a device as shown in 405-411, and is the same as that of the icon of the semantics of a wide sense. Thus, the display object of a device will be called a metaphor in an example.

[0096] In above-mentioned drawing 4 , "401" is that pointing devices, such as a mouse connected to the terminal unit 111 by the side of a user or 112, are operated from a user, and is a pointer which moves on a viewing window 400 synchronizing with the actuation concerned. "402" is a home-position carbon button for arranging and displaying a user's own terminal unit 111 or 112 on the center of a window in a viewing window 400.

[0097] In a viewing window 400, "403" is a navigation carbon button for displaying the part which cannot be displayed in a viewing area, when the map information displayed from a viewing area is large. For example, in the navigation carbon button 403, the direction of an arrow head is choosing the carbon button of the right sense with a pointer 401, and it becomes possible to display the field which exists rightward of a user by the viewing area of a viewing window 400.

[0098] "404" is a contraction scale modification carbon button for changing the contraction scale of the map information displayed by the viewing window 400. For example, with a pointer 401, a user is operating the contraction scale modification carbon button 404, and becomes possible [displaying map information on a viewing window 400 by the contraction scale for which it asks].

[0099] "405"- "411" is a metaphor which expresses the output unit connected to the network 180, respectively. In a viewing window 400, these metaphors 405-411 are physical relationship equivalent to the physical location in actual space, and are arranged and displayed on map information, respectively.

[0100] "407" is a metaphor showing a user's own terminal unit 111 or 112. In a viewing window 400, on map information, it is arranged and is displayed by physical relationship equivalent to the physical location in actual space about this metaphor 407 as well as the metaphor of the output unit mentioned above.

[0101] About the metaphor 407 showing a user's own client equipment 111 or 112, it has composition which is arranged and is displayed on the core of the viewing area of

a viewing window 400 based on actuation of the home carbon button 402 mentioned above.

[0102] The server 151 is carrying out package management of the information about the location (display position of a metaphor) of the output unit in the above viewing windows 400, and client equipment by the DB303.

[0103] Moreover, the terminal unit 111,112 by the side of a user In order to display the above viewing windows 400, to a server 151 by publishing the positional information acquisition demand about the device on a network 180 Output unit 113,114,121-123,131-133,141,142 and the client equipment 111 by the side of **, or the positional information about 112 is acquired. Based on this, the map information output unit 113,114,121-123,131-133,141,142 and the client equipment 111 by the side of **, or the metaphor of 112 was indicated to be is created. By the viewing window 400 obtained by this being displayed with the terminal unit 111,112 by the side of a user, a user becomes possible [grasping easily the location of output unit 113,114,121-123,131-133,141,142 visually connected on the network 180 to accuracy].

[0104] Furthermore, in the viewing window 400 of above-mentioned drawing 4 , a user moves a pointer 401, and if the metaphor (here, it considers as an output unit 409) of the output unit for which it asks is chosen, as shown in drawing 5 , information (device information) 409a about the output unit 409 concerned will be displayed. Thereby, a user becomes possible [grasping detailed information such as a function of the various devices intuitively connected to up to a network 180, and a current condition,]. Moreover, the metaphor of drawing 4 and the output unit shown by 5 has the composition that warning is displayed, when it is alike with the client group to whom a client belongs, and acquisition of detailed information is forbidden more, the display which gives a user the image which cannot choose a metaphor is performed or selection processing is performed (equivalent to the configuration of claims 29 and 30).

[0105] The function of the terminal unit 111,112 by the side of the above servers 151 and a user is carried out by for example, server software or client software. The terminal unit 111,112 by the side of a server 151 and a user has the computer ability 500 as shown in drawing 6 , respectively, and, specifically, actuation of the gestalt of this operation is carried out by the CPU501.

[0106] As shown in above-mentioned drawing 6 , the computer ability 500 CPU501, ROM502, RAM503, and the keyboard controller 505 of a keyboard (KB) 509 (KBC), CRT controller 506 of CRT display (CRT) 510 as a display (CRTC), The disk controller 507 of a hard disk (HD) 511 and the floppy (trademark) disk (FD) 512 (DKC), Network Interface Card (NIC) 508 is considering as the configuration mutually connected possible [a communication link] through the system bus 504. And a system bus 504 is connected with the network 180 shown in above-mentioned drawing 1 .

[0107] CPU501 is performing software memorized by ROM502 or HD511 or software supplied from FD512, and controls each configuration section connected to the system bus 504 in the gross. That is, CPU501 is reading the processing program according to a predetermined processing sequence from ROM502, HD511, or FD512, and performing it, and performs control for realizing actuation with the gestalt of this operation.

[0108] RAM503 functions as main memory or a work area of CPU501 etc. KBC505 controls the directions input from KB509, a pointing device, etc. which is not illustrated. CRTC506 controls the display of CRT510. DKC507 controls access with HD511 and FD512 which memorize a boot program, various applications, an edit file, a user file, a network control program, the above-mentioned processing program in the gestalt of this operation, etc. NIC508 exchanges data in the device on a network 180, and both directions.

[0109] Drawing 7 shows the actuation for carrying out a screen display of the viewing window 400 shown in above-mentioned drawing 4 or drawing 5 in the CRT510 grade shown in above-mentioned drawing 6 in client equipment 111,112. In client equipment 111,112, the CPU501 is performing the processing program according to the flow chart of above-mentioned drawing 7 , and, specifically, the following actuation is carried out.

[0110] Step S601: If a map information display request (display demand of a viewing window 400) is made from a user, CPU501 will be accessing a network 180 to a server 151, and will acquire map information (map information).

[0111] In addition, it is good also as what is beforehand held in client equipment 111,112 about map information. In this case, it is unnecessary in processing of step S601.

[0112] Step S602: By making into key information area where the user desires a display, CPU501 is accessing a network 180 to a server 151, and acquires the information (device information, such as device positional information) about the device on a network 180.

[0113] Step S603: If CPU501 goes into a response waiting state from a server 151 and has a response from a server 151, processing from the following step S604 will be performed.

[0114] Step S604: CPU501 performs data processing for determining which device is

arranged about the information on all the devices contained in the information received from the server 151 using the information (positional information of a device etc.) received from the server 151 to which location on the map (or it has held in equipment beforehand) information received from the server 151.

[0115] Step S605: Based on the result (metaphor location) of data processing in step S604, CPU151 arranges the metaphor of each device to up to map information, and draws. By this, a screen display of the viewing window 400 as shown in above-mentioned drawing 4 or drawing 5 will be carried out. Then, it becomes this processing termination.

[0116] Drawing 8 shows the actuation at the time of receiving the information acquisition demand (an acquisition demand of device information, step S602 reference of above-mentioned drawing 7) from client equipment 111,112 in a server 151. In a server 151, the CPU501 (equivalent to the system management section 308 of above-mentioned drawing 3) is performing the processing program according to the flow chart of above-mentioned drawing 7 , and, specifically, the following actuation is carried out.

[0117] Step S701: If a server 151 receives an information acquisition demand from client equipment 111 or 112, in a server 151, the information retrieval section 307 will acquire the information which corresponds from DB304 for device group information based on the key information (information on the area as for which the user is doing display hope) included in the demand concerned.

[0118] Step S702: The information retrieval section 307 acquires the information on the device shown using the device group information acquired at step 701 (device detailed information about all the devices belonging to the area as for which the user is doing display hope, such as the location and a function) from DB303 for device information.

[0119] Step S703: The system management section 308 transmits the information acquired in the information retrieval section 307 to the client equipment 111 of information acquisition demand origin, or 112. Then, it becomes this processing termination.

[0120] Since it can provide to a user by the viewing window 400 (visual means) as showed the information about the various devices on a network 180 to above-mentioned drawing 4 and drawing 5 according to the gestalt of these above operations, even if it is a large-scale network system, a user can grasp easily whether it is in what what kind of device is connected on the network, or has what kind of function, and what kind of condition.

[0121] With the gestalt of [gestalt of the 2nd operation] book operation, the configuration of the network system 100 of above-mentioned drawing 1 is considered as a configuration which is explained below. In addition, here explains only a different configuration from the gestalt of the 1st operation concretely.

[0122] Drawing 9 shows an example of the record format 800 for classifying and carrying out grouping of the device on a network 180, and managing it (X) in a server 151. The information according to this record format 800 (X) is accumulated as device group information to DB304 for the device group information on a server 151.

[0123] The record format 800 (X) includes the field 801 where a device group ID is memorized, the field 802 where a device group name is memorized, and the field 803 where the device ID belonging to an object device group is memorized, as shown in above-mentioned drawing 9 . The device group ID memorized to a field 801 is ID of the proper which shows the function which the device belonging to an object device group has in common. The device group name memorized to a field 802 is a name of an object device group, and is defined as a proper to the object device group ID.

[0124] Here, as an example, output unit 113,114,121-123,131-133,141,142 connected to the network 180 were used as the printer, and the result classified for every (a staple punch function, a bookbinding function, a color-print function, shift sort function) function of the is memorized to record format 800(1) -800(4).

[0125] The above device group information is made as [refer to / it] in client equipment 111,112, and, thereby, a user becomes possible [searching quickly the device which has the function for which it asks].

[0126] Specifically in client equipment 111,112, Screen (device group information screen) 910 obtained from the device group information managed by the server 151 as shown in drawing 10 is displayed on CRT510 by control of CPU501.

[0127] In above-mentioned drawing 10 , "911" is a menu bar for choosing the group classification for which it asks. Here, since displaying the information about the group classified according to the function is chosen, on Screen 910, the information on how many corresponding devices exist about each function of "bookbinding", "staple punch", "a color-print", and "a shift sort" etc. is displayed (refer to "912" of above-mentioned drawing 10).

[0128] "913" is a "list" carbon button for displaying the information on the device belonging to the group for every function of "bookbinding", "staple punch", "a color-print", and "a shift sort." "914" is that pointing devices, such as a mouse, are operated from a user, and is a pointer which moves on Screen 910 synchronizing with the actuation concerned.

[0129] Drawing 11 shows an example of the display screen at the time of choosing a "list" carbon button in Screen 910 of above-mentioned drawing 10 . [of the functions for which a user asks with a pointer 914] Here, the "list" carbon button should be chosen. [of "shift sort" functions]

[0130] When a user chooses a "list" carbon button on Screen 910 of above-mentioned drawing 10 , specifically (selection by click actuation etc.) CPU501 [of "shift sort" functions] Based on the actuation concerned, the information retrieved by transmitting an information acquisition demand to a server 151 out of the information managed by the server 151 is acquired, and the screen 910 as shown in above-mentioned drawing 11 is displayed on CRT510 using this acquisition information.

[0131] In above-mentioned drawing 11 , "921" is a field where the information which shows the group classification chosen by the menu bar 911 of above-mentioned drawing 10 is displayed. "922" is a menu bar for limiting and choosing area (location) further among the devices belonging to the device group corresponding to the above-mentioned group classification. "923" is a carbon button for choosing the device for which it asks out of the device applicable to selection by the menu bar 922.

[0132] Here, as shown in above-mentioned drawing 11 , the present conditions ("power-saving mode", normality, "with no two cassettes", etc.) of each device are expressed as Screen 920. For this reason, output unit 113,114,121-123,131-133,141,142 have the computer ability 500 shown in above-mentioned drawing 6 , and the same function, respectively, and using the device agent (agent for supervising a device status) carried out by CPU501 of the function concerned, they consist of gestalten of this operation so that the present condition by the side of ** may be notified to a server 151.

[0133] Drawing 12 shows actuation of output unit 113,114,121-123,131-133,141,142. That is, in output unit 113,114,121-123,131-133,141,142, the following actuation is carried out because the CPU501 performs the processing program according to the flow chart of above-mentioned drawing 12 .

[0134] Step S1001: CPU501 checks the condition of self-equipment and memorizes this check result to an internal memory (RAM503 grade). As a check item here, the form piece of a record form, the existence of the paper jam of a record form, etc. are mentioned, for example.

[0135] Step S1002: It confirms whether CPU501 is working now, and this check result is memorized to an internal memory (RAM503 grade) (step S1002). For example, when self-equipment is a printer, it confirms whether be under print. You may make it also collect the schedule time of day of the job termination under print at this time.

[0136] Step S1003: CPU501 is performing the comparison with the check result of steps S1001 and S1002, and the last check result memorized by the internal memory, and distinguishes whether the condition of self-equipment had change. As a result of this distinction, when you have no change of state, CPU501 repeats and performs processing from step S1001 again.

[0137] Step S1004: In with a change of state, CPU501 notifies the purport which had change in the condition of self-equipment to a server 151 through a network 180 as a result of distinction of step S1003. Then, CPU501 repeats and performs processing from step S1001 again.

[0138] Drawing 13 shows the actuation at the time of receiving the advice of a change of state from output unit 113,114,121-123,131-133,141,142 in a server 151. In a server 151, the CPU501 (equivalent to the system management section 308 of above-mentioned drawing 3) is performing the processing program according to the flow chart of above-mentioned drawing 13 , and, specifically, the following actuation is carried out.

[0139] Step S1011: The information retrieval section 307 acquires the storing location of device information where DB303 for device information corresponds based on ID (device ID) of the output unit shown by the advice concerned, in order to update corresponding device information, if advice of a change of state is received from an output unit.

[0140] Step S1012: The renewal section 306 of information updates the device information to which it corresponds in DB303 based on the status information shown by advice of a change of state from an output unit based on the storing location information acquired in the information retrieval section 307.

[0141] Step S1013: The system management section 308 transmits the status which shows whether the update process in the renewal section 306 of information terminated normally to the output unit of the advice origin of a change of state. Then, it becomes this processing termination.

[0142] in addition, in step S1013, it is also a possible configuration to make it setting out which is alike to the system management group who has managed the whole print processing system, and gives automatic advice of the status according to the content of updating. It becomes possible to increase the convenience of the manager who is performing the system management by this.

[0143] According to the gestalt of these above operations, in a server 151, grouping of the device on a network 180 can be carried out, and it can be managed efficiently.

Moreover, since it notified to the server 151 and the server 151 has updated device information on real time mostly based on the advice concerned by the device agent (function carried out by CPU501) in whom output unit 113,114,121-123,131-133,141,142 were built, respectively when the condition of self-equipment is monitored continuously and a change of state occurs, a user (client) can always acquire the newest device information by accessing to a server 151.

[0144] In client equipment 111,112, the device group information managed by the server 151 is expressed as the gestalt of [gestalt of the 3rd operation] book operation as a screen 1020 as shown in drawing 1414 .

[0145] In above-mentioned drawing 14 , "1021" is a menu bar for choosing the group classification for which it asks. Here, since displaying the information about the group classified according to the location (area) of a device is chosen, on Screen 1021, the information on how many corresponding devices exist about "Block-1", "Block-2", "Block-3", and "Block-3" etc. is displayed (refer to "1022" of above-mentioned drawing 14).

[0146] "1023" is a "list" carbon button for displaying the information on the device belonging to the group by the group classification (here -- "Block-1", "Block-2", "Block-3", and "Block-3") chosen by the menu bar 1021. "1024" is that pointing devices, such as a mouse, are operated from a user, and is a pointer which moves on Screen 1020 synchronizing with the actuation concerned.

[0147] For example, the screen of the information on a device that he belongs to the group of the area concerned like the screen 920 as shown in above-mentioned drawing 11 with a pointer 1024 when a user chooses the "list" carbon button to the group of a certain area is displayed.

[0148] "1025" is a carbon button for requiring the group who wants to choose a suitable device (device used actually) based on user setting out "outputted to a group."

[0149] Drawing 15 is Screen 1030 for the above-mentioned user setting out. A user sets up beforehand the parameter used as the criteria of suitable device selection with Screen 1030 of above-mentioned drawing 15 . Here, it is made that setting out of whether priority is given to the parameter of "the nearness to an output destination change" or priority is given to the parameter of "the rate to output job termination" is possible.

[0150] On Screen 1030 of above-mentioned drawing 15 , from "the rate to output job termination" (time amount until jobs, such as a printed output, are completed) Priority is given to "the nearness to an output destination change" (nearness of the distance from the client equipment which the user is using to a device) (refer to the white round head shown by the black dot shown by "1031" of this drawing, and "1032"). It is setting out which chooses the device which corresponds out of the device belonging to a candidate group.

[0151] "1033" is "registration" carbon button for opting for setting out of Screen 1030 eventually (registration). To the timing by which the this "registration" carbon button 1033 was operated, the setting-out information concerned is saved to DB302 for User Information of a server 151 (registration). "1034" is that pointing devices, such as a mouse, are operated from a user, and is a pointer which moves on Screen 1030 synchronizing with the actuation concerned.

[0152] Therefore, in client equipment 111,112, if the response "output to group" carbon button 1025 is chosen from on Screen 1020 of above-mentioned drawing 14 as a certain group Client equipment 111,112 receives a server 151 through a network 180. It is required that a suitable device should be chosen out of the device which belongs to groups involved based on the setting-out information (setting-out information by Screen 1030 of above-mentioned drawing 15 R> 5) saved previously to DB302 for User Information.

[0153] Drawing 16 shows actuation of client equipment 111,112 which was mentioned above. In client equipment 111,112, the CPU501 is performing the processing program according to the flow chart of above-mentioned drawing 16 , and, specifically, the following actuation is carried out.

[0154] Step S1041: In the Screen 1020 top of above-mentioned drawing 14 , CPU501 will transmit a device decision demand to a server 151 through a network 180 by making groups involved into key information, if it recognizes that the carbon button 1025 corresponding to a certain group "outputted to a group" was chosen.

[0155] Step S1042: If CPU501 goes into a response waiting state from a server 151 and has a response from a server 151, processing from the following step S1043 will be performed.

[0156] Step S1043: CPU501 transmits processing activation demands (printed output demand etc.) to the device (output unit) which is shown using the device information included in a response from a server 151 and with which it corresponds on a network 180.

[0157] Step S1044: CPU501 notifies the purport that processing activation was required from the device determined by the server 151, to a user. As the advice approach to the user at this time, the approach of displaying a window, a dialog, etc. on CRT510 etc. is applicable. Then, it becomes this processing termination.

[0158] Drawing 17 shows the actuation at the time of receiving the device decision demand from client equipment 111,112 in a server 151. In a server 151, the CPU501 (equivalent to the system management section 308 of above-mentioned drawing 3 R> 3) is performing the processing program according to the flow chart of above-mentioned drawing 17 , and, specifically, the following actuation is carried out.

[0159] Step S1051: If a server 151 receives the device decision demand from client equipment 111,112, in a server 151, the information retrieval section 307 will retrieve a group's information shown by the demand concerned from DB304 for device group information.

[0160] Step S1052: The information retrieval section 307 acquires the information about the device (all devices belonging to groups involved) shown using the device group information which step S1051 retrieved from DB303 for device information.

[0161] Step S1053: The system management section 308 sorts the device information acquired in the information retrieval section 307 based on the information (setting-out information by Screen 1030 of above-mentioned drawing 15) beforehand set up from the user. Thereby, the various devices belonging to groups involved are rearranged in order based on the information to what directed by the user priority is given.

[0162] Step S1054: The system management section 308 determines a suitable device out of the various devices sorted at step S1053 based on the above-mentioned setting-out information.

[0163] Step S1055: The system management section 308 transmits to the client equipment 111 of device decision demand origin, or 112 through a network 180 by considering information on the device determined at step S1054 as a response. Then, it becomes this processing termination.

[0164] According to the gestalt of these above operations, out of a device group, a user does not need to specify the device used actually, can determine a suitable device automatically and can do processing activation.

[0165] [Gestalt of the 4th operation] this invention is applied to the network system 1100 as shown in drawing 1818 . The network system 1100 of the gestalt of this operation As it is arranged in a certain space and shown in above-mentioned drawing 18 like the network system of above-mentioned drawing 1 In the end of a user side edge which is a computer and a workstation Equipments 1311, 1312, 1313, 1411, 1412, 1413, 1511, 1512, and 1513 (client equipment), The output units (device) 1201, 1202, 1301, 1401, 1501, and 1601, such as a copying machine and a printer, and the server 1151 for data processing are considering as the configuration connected so that it could communicate mutually through a network 1180.

[0166] The client equipments 1311, 1312, 1313, 1411, 1412, 1413, 1511, 1512, and 1513 and output units 1201, 1202, 1301, 1401, 1501, and 1601 are systematically installed in the separate location, respectively. For example, an output unit 1301 and the client equipments 1311-1313 are arranged at <setting out>, an output unit 1401 and the client equipments 1411-1413 are arranged at <the plan>, output units 1201 and 1202 are arranged in the <print center>, and the output unit 1601 is arranged [an output unit 1501 and the client equipments 1511-1513 are arranged at <business>, and] at <a plan and business>.

[0167] In addition, about the internal configuration of the client equipments 1311, 1312, 1313, 1411, 1412, 1413, 1511, 1512, and 1513, output units 1201, 1202, 1301, 1401, 1501, and 1601, and a server 1151, since it is the same as that of the client equipment in the network system 100 of above-mentioned drawing 1 , an output unit, and a server, the detailed explanation is omitted.

[0168] Here, in a network system 1100, when the activity of all the output units 1201, 1202, 1301, 1401, 1501, and 1601 was allowed, as all the users by the side of the client equipments 1311, 1312, 1313, 1411, 1412, 1413, 1511, and 1512 and 1513 stated with the conventional technique, there is effectiveness aggravation by the job concentration to some output units. Moreover, there is a possibility that possibility that a print-out will touch the 3rd person's eyes may occur with the output to the output unit which a user does not mean, and problems, such as leakage of secrets of the information indicated by the output, may occur. Then, the gestalt of this operation is considered as a configuration which is explained below, in order to solve the above-mentioned problem.

[0169] Drawing 19 shows the concept of the activity which carries out grouping of the device information which is the description of the gestalt of this operation. Here, grouping of the output units 1201, 1202, 1301, 1401, 1501, and 1601 is classified and carried out as an example for every function which an output unit has.

[0170] As shown in above-mentioned drawing 19 , the output unit which has a bookbinding function is only an output unit 1201, the output units which have a staple punch function are output units 1201 and 1601, the output unit which has a color output function is only an output unit 1301, and the output units which have a shift sort function are output units 1201, 1202, and 1601.

[0171] Therefore, the server 1151 carried out grouping of the output units 1201, 1202, 1301, 1401, 1501, and 1601 not only the grouping for every function as shown by above-mentioned drawing 19 but every engine performance, every location, and the whole right of an output, and has managed them by making this result into device

group information by DB304 shown in above-mentioned drawing 3 . At this time, a format as shown in above-mentioned drawing 9 is applicable as a record format used in order to manage device group information by DB304.

[0172] Drawing 20 shows the concept of the activity which carries out grouping of User Information which is the description of the gestalt of this operation. Here, as an example, as a user, a network administrator 1251, the design chief 1351, an architect 1352, --, the plan chief 1451 and a designer 1452, --, the operating chief 1551 and the operating company 1552, and — exist, and grouping of these users is classified and carried out for every affiliation.

[0173] As shown in above-mentioned drawing 20 , a network administrator 1251 and the design chief 1351 belong to the system management group. The design chief 1351, the plan chief 1451, and the operating chief 1551 belong to the chief group. The design chief 1351 and an architect 1352, and — belong to the design group. The plan chief 1451 and plan 1452, and -- belong to the plan group. The operating chief 1551 and business 1552, and -- belong to the operating group.

[0174] Therefore, as the server 1151 was shown by above-mentioned drawing 20 R> 0, it did the whole affiliation of the grouping of various users, and it has managed them in the database which mentions this result later.

[0175] Drawing 21 classifies and carries out grouping of User Information as shown in above-mentioned drawing 20 the whole affiliation in a server 1151, and an example of the record format 1710 for managing in a database (X) is shown.

[0176] The record format 1710 (X) includes the field 1714 where an user group ID is memorized, the field 1715 where an user-group name is memorized, and the field 1716 where the user ID belonging to an object user group is memorized, as shown in above-mentioned drawing 21 .

[0177] The user group ID memorized to a field 1714 is ID of the proper which shows object user groups (system operating group etc.). The user-group name memorized to a field 1715 is a name of an object user group, and a "system operating group" etc. is equivalent to this. The user ID memorized to a field 1716 is ID of the proper added to the user belonging to an object user group.

[0178] It becomes possible to search the user belonging to a certain group quickly by above User Information.

[0179] Moreover, a server 151 manages the device royalty information 1720 as shown in drawing 22 in the database mentioned later. The device royalty information 1720 is the table information by which the royalty (existence of a royalty) of each output unit shown by the device ID 1721 was defined to each user group shown by the user group ID 1722, as shown in above-mentioned drawing 22 .

[0180] For example, in above-mentioned drawing 22 , the group (system management group) shown by the user group ID "01-0001" is defined as only a device ID "1201", "1202", "1401", and the output unit shown by "1602" becoming all output units being usable and usable [the group (plan group) shown by the user group ID "03-0003"]. Therefore, a user becomes usable only to the output unit by which licence was carried out by the user group to which he belongs. It enables this to prevent concentration of the job by each user advancing an output request to an output unit disorderly etc.

[0181] Drawing 23 shows the internal configuration of the server 1151 in the gestalt of this operation. The server 1151 is taken as the configuration further equipped with the database 310 for user-group information (DB) to the configuration shown in above-mentioned drawing 3 . Therefore, are recording management of the user-group information according to the record format 1710 of above-mentioned drawing 21 (X) is carried out to DB310.

[0182] In addition, about the device royalty information 1720 on above-mentioned drawing 22 , it reaches DB302-304 and is not restricted [the memory in a server 151, or] to any of 310, etc. and the management locations.

[0183] As for drawing 24 , a certain user shows the actuation of the client equipment concerned in the case of advancing a processing activation demand (output request) to which output unit of output units 1201, 1202, 1301, 1401, 1501, and 1601 with which client equipment of the client equipments 1311, 1312, 1313, 1411, 1412, 1413, 1511, 1512, and 1513. In the client equipment concerned, the CPU501 (device agent) is performing the processing program according to the flow chart of above-mentioned drawing 24 , and, specifically, the following actuation is carried out.

[0184] Step S1801: CPU501 transmits the enquiry demand of whether there is any royalty of the user concerned to the output unit in which will be transmitting the information about the output unit in which the information about the user concerned and the user concerned do activity hope to a server 1151, and the user concerned will do activity hope through a network 1180 if it recognizes that the actuation for a processing activation demand was made from the user.

[0185] Step S1802: If CPU501 goes into the response waiting state over the enquiry demand to the server 1151 in step S1801 and the response concerned is received, it will perform processing from the following step S1803.

[0186] Step S1803: CPU501 distinguishes whether there is any royalty (right of an output) of the user concerned to the output unit in which the user concerned does activity hope from the content of the response from the server 1151 which received

at step S1802. As a result of this distinction, in with a royalty, it progresses to the following step S1804, and in having no royalty, it progresses to step S1806 mentioned later.

[0187] Step S1804: When there is a royalty of the user concerned to the output unit in which the user concerned does activity hope as a result of distinction of step S1803, recognize it as CPU501 having the just processing activation demand from the user concerned, and transmit a processing activation demand to the output unit concerned through a network 1180. Thereby, processing of a printed output etc. is performed in the output unit concerned.

[0188] Step S1805: CPU501 notifies having received the processing activation demand by the screen display of a message etc. to the user concerned. Then, it becomes this processing termination.

[0189] Step S1806: When there is no royalty of the user concerned to the output unit in which the user concerned does activity hope as a result of distinction of step S1803, CPU501 notifies having refused the processing activation demand by the screen display of a message etc. to the user concerned. Then, it becomes this processing termination.

[0190] Drawing 25 shows actuation of a server 1151 when a server 1151 receives a collating demand from client equipment by processing of step S1801 of above-mentioned drawing 24 . In a server 1151, the CPU501 (equivalent to the system management section 308 of above-mentioned drawing 23) is performing the processing program according to the flow chart of above-mentioned drawing 25 , and, specifically, the following actuation is carried out.

[0191] Step S1811: The information retrieval section 307 is acquiring the information which corresponds from DB310 for user-group information based on the information (user ID etc.) about the user (user who performed the enquiry demand concerned) contained in the enquiry demand which received from which client equipment of the client equipments 1311, 1312, 1313, 1411, 1412, 1413, 1511, 1512, and 1513, and searches the group to whom the user concerned belongs.

[0192] Step S1812: The information retrieval section 307 acquires the output unit with which the royalty is granted to groups involved from the group to whom the user concerned who acquired at step S1811 belongs using the device royalty information 1720 that the information on which output unit it is was shown in above-mentioned drawing 22 .

[0193] Step S1813: The system management section 308 answers the status information of whether based on the information acquired in the information retrieval section 307, the user who performed the enquiry demand concerned has the royalty of the output unit which carries out activity hope to the client equipment of enquiry demand origin. Then, it becomes this processing termination.

[0194] Since according to the gestalt of these above operations grouping of two or more users who use these output units can be carried out and they can be managed by the server 1151 with the output units 1201, 1202, 1301, 1401, 1501, and 1601 connected to the network 1180, it becomes possible to prevent concentration of the job by each user advancing an output request to an output unit disorderly etc.

[0195] In the client equipments 1311, 1312, 1313, 1411, 1412, 1413, 1511, 1512, and 1513 shown in above-mentioned drawing 18 , the device group information managed by the server 1151 is expressed as the gestalt of [gestalt of the 5th operation] book operation as a screen 910 as shown in the above-mentioned drawing 1010 . Moreover, it is too managed within the server 1151 whether retrieval activation of the device group information managed by the server 1151 is permitted by each client group, and it has determined whether perform the retrieval activation demand from each client using the retrieval execute permission information.

[0196] For example, in client equipment 1311, the CPU501 is displayed on CRT510 as a screen 910 as showed the device group information managed by the server 1151 to above-mentioned drawing 10 . If a user chooses the "list" carbon button to the group of the arbitration on Screen 910 (selection by click actuation etc.), the screen 910 as shown in above-mentioned drawing 11 will be expressed as client equipment 1311 by the CPU501.

[0197] A user chooses the "output" carbon button 923 corresponding to the output unit which carries out activity hope in screen top 910 of above-mentioned drawing 11 . This selection information is equivalent to "the information about the output unit in which a user does activity hope" in step S1801 of above-mentioned drawing 24 , and step S1812 of above-mentioned drawing 25 .

[0198] Therefore, as the server 151 was mentioned above, it will distinguish whether the royalty of the output unit in which the user concerned is doing activity hope is granted to the group to whom the user concerned belongs using the above-mentioned selection information and the information (user ID etc.) about the user concerned, and the device royalty information 1720 as shown in above-mentioned drawing 22 , and it will return the result to client equipment 1311.

[0199] In client equipment 1311, the CPU501 displays the dialog 925 which shows that there is no royalty on Screen 910, when the royalty of the output unit chosen from Screen 910 of above-mentioned drawing 11 by the response from a server 1151 is

nothing, for example, as shown in drawing 26 .

[0200] As for drawing 27 , a server 1151 shows the actuation of a server 1151 at the time of receiving the demand (device group information retrieval demand) which acquires the information for displaying Screen 920 of the information about the output unit belonging to the group chosen from on the screen 920 910, i.e., the screen of above-mentioned drawing 10 , as shown in above-mentioned drawing 11 from client equipment 1311. In a server 1151, the CPU501 (equivalent to the system management section 308 of above-mentioned drawing 23 R> 3) is performing the processing program according to the flow chart of above-mentioned drawing 27 , and, specifically, the following actuation is carried out.

[0201] Step 1821: The information retrieval section 307 is acquiring the information which corresponds from DB310 for user-group information based on the information (user ID etc.) about the user (user who performed the demand concerned) contained in the device group information retrieval demand which received from client equipment 1311, and searches the group to whom the user concerned belongs.

[0202] Step 1822: The information retrieval section 307 distinguishes whether the retrieval demand is permitted to groups involved from the group to whom the user concerned who acquired at step S1821 belongs. As a result of this distinction, when the retrieval demand is permitted, it progresses to the following step S1823, and in having no right of a retrieval demand, it progresses to step S1825 mentioned later.

[0203] Step 1823: In with the right of a retrieval demand, the information retrieval section 307 retrieves the device group information which corresponds from DB304 for device group information based on a search key (carbon button operated from Screen 910 of above-mentioned drawing 10) as a result of distinction of step S1822.

[0204] Step 1824: The system management section 308 distinguishes whether a search key is the last key. As a result of this distinction, in not being an end key, return and subsequent processing steps are again repeated to step S1823, and it performs. When it is an end key, it progresses to the following step S1825.

[0205] Step 1825: On the other hand, the system management section 308 notifies a retrieval demand refusal response for the retrieval result which was obtained at step S1823 in with the right of a retrieval demand to client equipment 1311, when you have no right of a retrieval demand. Then, it becomes this processing termination.

[0206] According to the gestalt of these above operations, a user becomes possible [searching the detailed information of the device belonging to the group who wants for every device group information managed by the server 1151]. Moreover, the output from the device which has an output function too is possible for the detailed information of these devices. Moreover, the output of the detailed information of the device by the format of the improper information on outputting [which a user wishes], for example, interleaving paper etc., is also possible (equivalent to the configuration of claim 50).

[0207] In addition, it cannot be overemphasized by the object of this invention supplying the storage which memorized the program code of the software which realizes the host of the gestalt of the 1st - the 5th operation, and the function of a terminal to a system or equipment, and reading and performing the program code with which the computer (or CPU and MPU) of the system or equipment was stored in the storage that it is attained. In this case, the program code itself by which reading appearance was carried out from the storage will realize the function of the gestalt of the 1st - the 5th operation, and the storage which memorized that program code will constitute this invention. As a storage for supplying a program code, the memory card of ROM, a floppy disk, a hard disk, an optical disk, a magneto-optic disk, CD-ROM, CD-R, a magnetic tape, and a non-volatile etc. can be used. Moreover, it cannot be overemphasized by performing the program code which the computer read that it is contained also when the function of the gestalt of the 1st - the 5th operation is not only realized, but it performs a part or all of processing that OS which is working on a computer is actual, based on directions of the program code and the function of the gestalt of the 1st - the 5th operation is realized by the processing. Furthermore, after the program code by which reading appearance was carried out from the storage was written in the memory with which the functional expansion unit connected to the extension board inserted in the computer or the computer is equipped, It cannot be overemphasized that it is contained also when a part or all of processing that CPU with which the functional add-in board and functional expansion unit are equipped is actual is performed based on directions of the program code and the function of the gestalt of the 1st - the 5th operation is realized by the processing.

[0208]

[Effect of the Invention] The User Information can be registered and managed also about the user who registers the information with which two or more devices connected to the network are related in a server according to this invention, classifies registration device information into a device group, manages it further as explained above, and uses a network. On the other hand, a user side can acquire the information on the device on a network (positional information of a device etc.) by accessing to a server through a network, and can express it as map information from the physical distance relation in the space in which the network of a device is installed based on

the information concerned, and can express a device as a metaphor on the map information concerned. Therefore, from the metaphor of the map information displayed with the terminal unit by the side of ** etc., and a device, since a user can recognize the arrangement relation of the device on a network visually, he can perform location grasp of the device on a network promptly, and can expect improvement in a network, the productivity of a device, or effectiveness.

[0209] In the above-mentioned configuration, when it constitutes so that not only the positional information of a device but the device information (information, such as engine performance of a device and a function) managed by the server may be displayed, since a user can recognize engine performance, a function, etc. of the device connected to the network in intuitive actuation, he can expect to lead to improvement in a network, the productivity of a device, or effectiveness.

[0210] Moreover, according to this invention, in a server, the User Information can be registered and managed also about the user who registers the information with which two or more devices connected to the network are related, classifies registration device information into a device group, and manages it further, and uses a network. On the other hand, a user side is accessing to a server and retrieval of the device by the device group of it is attained. Moreover, when two or more devices belonging to the device groove specified by the user exist, based on setting out by the side of a server or a user, the result of having sorted the device can also be outputted beforehand. Therefore, since a user can perform quickly a search of the device for which it asks, he can expect improvement in a network, the productivity of a device, or effectiveness.

[0211] The device connected to the network in the above-mentioned configuration, respectively When the own condition of a device is always supervised and a condition has change, a device status is notified to a server. When a server constitutes based on the advice concerned so that management information may be updated, a server becomes possible [always managing the condition of the newest device], and becomes possible [offering the newest device information] to the retrieval demand from a user side.

[0212] Moreover, it sets to the device with which a server belongs to the device group directed by the user based on the demand from a user side. the user concerned — receiving — the most efficient device (the nearest device from a user side —) When it constitutes so that the device which can process at a high speed most in a near device from a user side may be determined automatically, while being able to expect improvement in the productivity of the product (print generation) by the activity of a device for a user, high processing of effectiveness can be performed.

[0213] Moreover, also about the user who registers the information with which two or more devices connected to the network are related in a server according to this invention, classifies registration device information into a device group, and manages it further, and uses a network, the User Information is registered, and further, registration User Information can be classified into an user group, and can be managed. On the other hand, a user side can determine whether to judge whether the user concerned is usable in the device concerned, and carry out processing activation actually to the device concerned by accessing to a server, according to the result, when the processing activation demands (printed output demand etc.) to the device of arbitration are made from a user. Therefore, it becomes possible to a user to prevent the unrestricted activity of the device on a network, and improvement in a network, the productivity of a device, or effectiveness can be expected. Moreover, it is effective even if it sees from the point of security protections, such as the content of an output by the device.

[0214] In the above-mentioned configuration, when a user constitutes device information, device group information and User Information, or user-group information for retrieval, enquiry or modification, etc. to a server so that it may be possible, a user can recognize the device with which licence of the user itself is carried out, the engine performance, a function, etc. with the terminal unit by the side of ** etc. At this time, a server judges whether the demand concerned is permitted for the demand of the retrieval from a user, enquiry or modification, etc., etc. a carrier beam case, or it refuses, and may be made to perform it. Moreover, a user can know ****** with the terminal unit by the side of ** etc. by a function, engine performance, etc. of those devices, when there are two or more devices by which licence is carried out.

[0215] Moreover , by access to a server , when it constitute so that a device status may be notify to a server , when [of the device connect to the network] the own condition of a device be always supervise and a condition have change , respectively , since a user can demand processing activation actually after grasp whether the device which be carry out activity hope be in what kind of condition now , he can expect improvement in user productivity or effectiveness .

TECHNICAL FIELD

[Field of the Invention] This invention relates to the storage which stored the processing step for carrying an information processor, a network system, a device management method, and it out applied to the network system under the environment where two or more devices (output unit etc.) and the terminal units by the side of a user (a workstation, personal computer, etc.) were connected through the network, the client software or a device driver, etc. possible [read-out of a computer].

[Translation done.] * NOTICES *

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PRIOR ART

[Description of the Prior Art] In recent years, it is performed that two or more users own information jointly between, connecting various computers and the peripheral device of those for example, so that information can be communicated in both directions, and building a computer network (only henceforth a "network" or a "network system"), and aim at distribution of the load of information processing on the network concerned by it.

[0003] By high-performance-izing and a miniaturization, and a cost cut with - computer are the technique in which it is in the limelight when becoming possible to raise productivity and effectiveness by leaps and bounds, and rapid as this main reason, the above network techniques could be easily used as altitude and a high-speed information processing means, even if it was a computer aiming at a personal youth.

- Development of the high-speed-data communication technology according to wireless to a cable list.

- Osmosis of distributed-processing architecture.

** is mentioned.

[0004] Specifically, the way of thinking that output units, such as a copying machine, and a printer or facsimile apparatus (FAX), also arrange such an output unit to up to a network (connection), and they use it, sharing between two or more users although it was used as a peripheral device connected to one set of a stand-alone or a host computer until now in most cases is beginning to spread widely. Furthermore, it is possible to become possible to share between two or more users the information accumulated in the file, the database, etc., consequently to raise productivity and effectiveness by leaps and bounds by connecting to up to a network the terminal units (a mainframe, a workstation, personal computer, etc.) using a computer which was mentioned above.

[0005] By the way, a network is small-scale, and when there are few output units connected on the network, it is comparatively easy for a user to have full knowledge for the function with which each output unit was equipped, or the engine performance. Moreover, a user can discover comparatively easily also about recognition of whether some output units are performing the output by other users, and the problem having occurred in the output unit.

[0006] On the other hand, the output engine performance for which each has an output unit differs in many cases. For example, about a printer, various printers are appearing like in the printer which has advanced functions, such as a printer in which the output of color information is possible, a sort function, a staple function, a punch function, and a bookbinding function, the printer further designed through the network concerned by making into a background the spread of networks which were mentioned above so that it might be available.

[0007] As mentioned above, the merit which builds a network is large and is permeating in various fields, such as office, and works, a lab or educational facilities.

EFFECT OF THE INVENTION

[Effect of the Invention] The User Information can be registered and managed also about the user who registers the information with which two or more devices connected to the network are related in a server according to this invention, classifies registration device information into a device group, manages it further as explained above, and uses a network. On the other hand, a user side can acquire the information on the device on a network (positional information of a device etc.) by accessing to a server through a network, and can express it as map information from the physical distance relation in the space in which the network of a device is installed based on the information concerned, and can express a device as a metaphor on the map information concerned. Therefore, from the metaphor of the map information displayed with the terminal unit by the side of ** etc., and a device, since a user can recognize the arrangement relation of the device on a network visually, he can perform location grasp of the device on a network promptly, and can expect improvement in a network, the productivity of a device, or effectiveness.

[0209] In the above-mentioned configuration, when it constitutes so that not only the positional information of a device but the device information (information, such as engine performance of a device and a function) managed by the server may be displayed, since a user can recognize engine performance, a function, etc. of the device connected to the network in intuitive actuation, he can expect to lead to improvement in a network, the productivity of a device, or effectiveness.

[0210] Moreover, according to this invention, in a server, the User Information can be registered and managed also about the user who registers the information with which two or more devices connected to the network are related, classifies registration device information into a device group, and manages it further, and uses a network. On the other hand, a user side is accessing to a server and retrieval of the device by the device group of it is attained. Moreover, when two or more devices belonging to the device groove specified by the user exist, based on setting out by the side of a server or a user, the result of having sorted the device can also be outputted beforehand. Therefore, since a user can perform quickly a search of the device for which it asks, he can expect improvement in a network, the productivity of a device, or effectiveness.

[0211] The device connected to the network in the above-mentioned configuration, respectively When the own condition of a device is always supervised and a condition has change, a device status is notified to a server. When a server constitutes based on the advice concerned so that management information may be updated, a server becomes possible [always managing the condition of the newest device], and becomes possible [offering the newest device information] to the retrieval demand from a user side.

[0212] Moreover, it sets to the device with which a server belongs to the device group directed by the user based on the demand from a user side. the user concerned — receiving — the most efficient device (the nearest device from a user side —) When it constitutes so that the device which can process at a high speed most in a near device from a user side may be determined automatically, while being able to expect improvement in the productivity of the product (print generation) by the activity of a device for a user, high processing of effectiveness can be performed.

[0213] Moreover, also about the user who registers the information with which two or more devices connected to the network are related in a server according to this invention, classifies registration device information into a device group, and manages it further, and uses a network, the User Information is registered, and further, registration User Information can be classified into an user group, and can be managed. On the other hand, a user side can determine whether to judge whether the user concerned is usable in the device concerned, and carry out processing activation actually to the device concerned by accessing to a server, according to the result, when the processing activation demands (printed output demand etc.) to the device of arbitration are made from a user. Therefore, it becomes possible to a user to prevent the unrestricted activity of the device on a network, and improvement in a network, the productivity of a device, or effectiveness can be expected. Moreover, it is effective even if it sees from the point of security protections, such as the content of an output by the device.

[0214] In the above-mentioned configuration, when a user constitutes device

information, device group information and User Information, or user-group information for retrieval, enquiry or modification, etc. to a server so that it may be possible, a user can recognize the device with which licence of the user itself is carried out, the engine performance, a function, etc. with the terminal unit by the side of ** etc. At this time, a server judges whether the demand concerned is permitted for the demand of the retrieval from a user, enquiry or modification, etc., etc. a carrier beam case, or it refuses, and may be made to perform it. Moreover, a user can know ****** with the terminal unit by the side of ** etc. by a function, engine performance, etc. of those devices, when there are two or more devices by which licence is carried out.

[0215] Moreover , by access to a server , when it constitute so that a device status may be notify to a server , when [of the device connect to the network] the own condition of a device be always supervise and a condition have change , respectively , since a user can demand processing activation actually after grasp whether the device which be carry out activity hope be in what kind of condition now , he can expect improvement in user productivity or effectiveness .

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, although the conventional network system which was mentioned above has a big merit about the output unit on a network being sharable by two or more users, if the number of an output unit also increases so that it may be proportional to this, consequently network magnitude becomes large as the number of users increases, following various problems will occur.

[0009] (1) In the big network of magnitude, it is very difficult for a user to have full knowledge to the engine performance and function about all the output units connected to up to a network. For this reason, efficient employment of the output unit connected to up to a network is not performed, and improvement in the effectiveness of the whole organization which has the network, or productivity may be unable to plan as planned.

[0010] (2) By a user's failure, generating of the mistake output in the output unit whose intention the user does not have can be considered. The printer whose intention the user concerned does not have may be used by the failure of the user of arbitration who specifically uses the network. If the print (misprint) in such a printer is generated mostly, other convenience and productivity of a user may be spoiled. Moreover, possibility that the content of the print-out will touch the 3rd person's eyes by the misprint to the print which a user does not mean occurs, and there is a big problem also in terms of the security protection of a print-out.

[0011] (3) Whenever it considers from the condition of an output unit, a user's output request cannot necessarily be met according to the condition of an output unit. When the output by User A, failure of a staple function during generating of a jam and inspection and repair, etc. have occurred in Printer A, even if User's B output request generates Printer A, specifically, it is impossible to process the demand promptly. In such a case, if User B grasps the condition of Printer A correctly, it is possible to change to the printer B of other normal states, and to carry out an output request, but if network magnitude is large, it will become difficult to grasp the condition of Printer B expected that User B will perform the output request. The inclination will become large if Printer B is physically separated especially.

[0012] Then, in order to solve above problem (1) - (3), the configuration which carries the output assistance system exists to a server, the operating system of a workstation or a personal computer, etc., but when it is the configuration of employing two or more systems in a network top, and a different output unit of a type, there are also problems, such as compatibility, and it cannot necessarily be said with the configuration by the conventional above-mentioned output assistance system that it is enough.

[0013] Then, this invention aims at offering the storage which stored the processing step for carrying an information processor, a network system, a device management method, and it out which accomplished in order to remove the above-mentioned fault, and can use efficiently the device for which a user asks even if it is the large-scale network system with which two or more users can share two or more devices possible [read-out of a computer].

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MEANS

[Means for Solving the Problem] It is an usable information processor about two or more devices with which the 1st invention has the function of arbitration through a network under this object, It is characterized by to have the display-control means on which the map information which has imitated and arranged the display object which shows two or more above-mentioned devices to physical space is displayed based on the information about two or more above-mentioned devices transmitted from the server on the above-mentioned network.

[0015] 2nd invention is characterized by the above-mentioned display-control means displaying which information at least with the display object of the function of the device shown using the information about two or more above-mentioned devices, the engine performance, and a condition which shows the above-mentioned device in the 1st above-mentioned invention.

[0016] A storage means for the 3rd invention to be an information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network, and to memorize the information about two or more above-mentioned devices, So that the map information which has imitated and arranged the display object which shows two or more above-mentioned devices using the information within the above-mentioned storage means to physical space can be displayed based on the demand from the client user of the arbitration in the client user of the above-mentioned plurality It is characterized by having an offer means to offer the information within the above-mentioned storage means to the client user of the demand origin concerned.

[0017] 4th invention is characterized by the thing of the function of a device, the engine performance, and a condition for which which information is memorized at least in the 3rd above-mentioned invention as information about the device of the above-mentioned plurality [means / above-mentioned / storage].

[0018] 5th invention is characterized by having the display-control means on which the information about two or more groups who did grouping of two or more above-mentioned devices which are usable information processors and have been transmitted from the server on the above-mentioned network in two or more devices which have the function of arbitration through a network is displayed.

[0019] It is characterized by the 6th invention displaying the information about the device with which the above-mentioned display-control means belongs to the group of the arbitration in two or more above-mentioned groups in the 5th above-mentioned invention.

[0020] 7th invention is characterized by having a directions means to direct to determine the device which corresponds according to predetermined conditions to the above-mentioned server out of the device belonging to the group of the arbitration in two or more above-mentioned groups in the 5th above-mentioned invention.

[0021] 8th invention is characterized by having a setting-out means to set up the above-mentioned predetermined conditions in the 7th above-mentioned invention.

[0022] The 9th invention is an information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network. A storage means to memorize the information about two or more groups who did grouping of two or more above-mentioned devices, It is characterized by having an offer means to offer the information within the above-mentioned storage means to the client user of the demand origin concerned, based on the demand from the client user of the arbitration in the client user of the above-mentioned plurality.

[0023] The 10th invention memorizes the information about the device of the above-mentioned plurality [means / above-mentioned / storage] in the 9th above-mentioned invention, and the above-mentioned offer means is characterized by to offer the information about the device belonging to the group of the arbitration in two or more above-mentioned groups directed by the above-mentioned client user within the above-mentioned storage means to the client user of the above-mentioned demand origin.

[0024] 11th invention is characterized by having a decision means to determine the

device which corresponds according to predetermined conditions out of the device belonging to the group of the arbitration in two or more above-mentioned groups, based on the directions from the client user of the above-mentioned demand origin in the 9th above-mentioned invention.

[0025] The 12th invention is an information processor which performs management for two or more client users to use two or more devices which have the function of arbitration through a network. The 1st storage means which memorizes the information about two or more user groups which carried out grouping of the client user of the above-mentioned plurality, The 2nd storage means which memorizes the information about the device which has a royalty in two or more above-mentioned devices about each of the user group of the above-mentioned plurality, It is characterized by having the management tool which makes usable [the client user concerned] the device specified by the client user of the arbitration in two or more above-mentioned client users based on the content of storage of the storage means of the above 1st, and the storage means of the above 2nd.

[0026] The 13th invention is a network system with which it comes to connect two or more devices of each other possible [a communication link] through a network, and at least one device is characterized by having the function of an information processor given in any of claims 1-12 they are among two or more above-mentioned devices.

[0027] The 14th invention is a device management method for two or more client users to use two or more devices through a network, It is characterized by including the display-control step on which the map information which has imitated and arranged the display object which shows two or more above-mentioned devices to physical space is displayed based on the information about two or more above-mentioned devices transmitted from the server on the above-mentioned network.

[0028] 15th invention is characterized by the above-mentioned display-control step containing the function of the device shown using the information about two or more above-mentioned devices, the engine performance, and the step on which which information is displayed at least with the display object of a condition which shows the above-mentioned device in the 14th above-mentioned invention.

[0029] The 16th invention is a device management method for two or more client users to use two or more devices through a network, the storage step which memorizes the information about two or more above-mentioned devices for a storage means, So that the map information which has imitated and arranged the display object which shows two or more above-mentioned devices using the information within the above-mentioned storage means to physical space can be displayed based on the demand from the client user of the arbitration in the client user of the above-mentioned plurality It is characterized by including the offer step which offers the information within the above-mentioned storage means to the client user of the demand origin concerned.

[0030] 17th invention is characterized by the above-mentioned storage step containing the function of a device, the engine performance, and the step of a condition that memorizes which information for the above-mentioned storage means at least as information about two or more above-mentioned devices in the 16th above-mentioned invention.

[0031] The 18th invention is a device management method for two or more client users to use two or more devices through a network, It is characterized by including the display-control step on which the information about two or more groups who did grouping of two or more above-mentioned devices transmitted from the server on the above-mentioned network is displayed.

[0032] 19th invention is characterized by the above-mentioned display-control step containing the step on which the information about the device belonging to the group of the arbitration in two or more above-mentioned groups is displayed in the 18th above-mentioned invention.

[0033] 20th invention is characterized by including the directions step which directs to determine the device which corresponds according to predetermined conditions to the above-mentioned server out of the device belonging to the group of the arbitration in two or more above-mentioned groups in the 18th above-mentioned invention.

[0034] 21st invention is characterized by including the setting-out step which sets up the above-mentioned predetermined conditions in the 20th above-mentioned invention.

[0035] The 22nd invention is a device management method for two or more client users to use two or more devices through a network. The storage step which memorizes the information about two or more groups who did grouping of the device of the above-mentioned plurality for a storage means, It is characterized by including the offer step which offers the information within the above-mentioned storage means to the client user of the demand origin concerned based on the demand from the client user of the arbitration in the client user of the above-mentioned plurality.

[0036] The above-mentioned offer step carries out containing the step which offers

to the client user of above-mentioned demand origin in the information about the device belonging to the group of the arbitration in two or more above-mentioned groups directed by the above-mentioned client user within the above-mentioned storage means as the description including the step the 23rd invention remembers the information about the device of the above-mentioned plurality [step / above-mentioned / storage] to be for the above-mentioned storage means in the 22nd above-mentioned invention.

[0037] 24th invention is characterized by including the decision step which determines the device which corresponds according to predetermined conditions out of the device belonging to the group of the arbitration in two or more above-mentioned groups based on the directions from the client user of the above-mentioned demand origin in the 22nd above-mentioned invention.

[0038] The 25th invention is a device management method for two or more client users to use two or more devices through a network. The 1st storage step which memorizes the information about two or more user groups which carried out grouping of two or more above-mentioned client users for the 1st storage means, The 2nd storage step which memorizes the information about the device which has a royalty in two or more above-mentioned devices about each of the user group of the above-mentioned plurality for the 2nd storage means, It is characterized by including the management step which makes usable [the client user concerned] the device specified by the client user of the arbitration in two or more above-mentioned client users based on the content of storage of the storage means of the above 1st, and the storage means of the above 2nd.

[0039] The 26th invention is a device management method for two or more users to use two or more devices through a network, The processing step which the server on the above-mentioned network performs Each function of the device of the above-mentioned plurality, the engine performance, and the device information storage step of the location that memorizes which information at least, Two or more above-mentioned users' access privilege, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at least, The device information grouping step which carries out grouping of the device information memorized by the account of device information 100 million above-mentioned step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, The information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step The offer step offered to the demand origin through the above-mentioned network is included. A processing step in case the registered user corresponding to User Information memorized by the above-mentioned User Information storage step uses the device of the arbitration on the above-mentioned network The User Information transmitting step at which the above-mentioned registered user side transmits User Information to the above-mentioned server, The above-mentioned server is based on the grouping information on the above-mentioned device information grouping step, and the grouping information on the above-mentioned User Information grouping step. The transmitting step at which the user group into which User Information transmitted from the above-mentioned registered user side is registered transmits the information about an usable device group to the above-mentioned registered user side, The map creation step which creates the map information to which the above-mentioned registered user side has imitated and arranged the metaphor of the device shown using the information concerned to the physical space where a actual device exists based on the information transmitted from the above-mentioned server, The above-mentioned registered user side is characterized by including the display step which carries out a screen display of the map information created by the above-mentioned map creation step.

[0040] The 27th invention is a pointer display step which displays the pointer for choosing the metaphor which expresses the device of arbitration on the display screen by the above-mentioned display step in the 26th above-mentioned invention, It is characterized by including the control step for judging that the metaphor of arbitration was chosen by the above-mentioned pointer.

[0041] 28th invention is characterized by including the detailed information display step which displays the detailed information of the device corresponding to the metaphor chosen by the above-mentioned pointer in the 27th above-mentioned invention.

[0042] In an according [the 29th invention / on the 26th above-mentioned invention and] to above-mentioned display step display screen top The display modification step changed into a display which tells the above-mentioned registered user the image which cannot choose the metaphor concerned about the metaphor whose user group to which the above-mentioned registered user belongs is the attribute of device output addition, When the above-mentioned registered user tries to choose the above-mentioned metaphor to which the output is forbidden in the user group to which the above-mentioned registered user changed by the above-mentioned display

modification step belongs, It is characterized by including the control step which performs control which does not receive the selection directions from the above-mentioned registered user.

[0043] 30th invention is characterized by the above-mentioned control step containing the step which outputs the message or beep sound which shows warning to the above-mentioned registered user in the 26th above-mentioned invention.

[0044] The 31st invention is a device management method for two or more users to use two or more devices through a network, The processing step which the server on the above-mentioned network performs Each function of two or more above-mentioned devices, the engine performance, and the device information storage step of the location that memorizes which information at least, The access privilege of the user of the above-mentioned plurality, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at least, The device information grouping step which carries out grouping of the device information memorized by account of above-mentioned device information 100 million step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, The information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step The offer step offered to the demand origin through the above-mentioned network is included. A processing step in case the registered user corresponding to User Information memorized by the above-mentioned User Information storage step uses the device of the arbitration on the above-mentioned network The User Information transmitting step at which the above-mentioned registered user side transmits User Information to the above-mentioned server, The above-mentioned server is based on the grouping information on the above-mentioned device information grouping step, and the grouping information on the above-mentioned User Information grouping step. The transmitting step at which the user group into which User Information transmitted from the above-mentioned registered user side is registered transmits the information about an usable device group to the above-mentioned registered user side, The above-mentioned registered user side carries out the description of the display step which carries out a screen display of the information transmitted from the above-mentioned server being included.

[0045] 32nd invention is characterized by including the sort step into which the above-mentioned server rearranges automatically the information on the device belonging to the device group concerned shown using the information about the device group which transmits to a registered user side by the above-mentioned transmitting step based on predetermined setting-out information in the 31st above-mentioned invention.

[0046] In the 31st above-mentioned invention, the above-mentioned registered user side is accessing to the above-mentioned server, and 33rd invention is characterized by including the querying step which asks whether the activity of the device of the arbitration on the above-mentioned network is permitted.

[0047] 34th invention is characterized by the device on the above-mentioned network containing the advice step of a device side of functional information, status information, and change-of-state information which notifies which information to the above-mentioned server serially at least in the 31st above-mentioned invention.

[0048] 35th invention is characterized by including the execute step which performs a processing activation demand to the device of the arbitration chosen by the display screen by the above-mentioned display step in the 31st above-mentioned invention.

[0049] It carries out that the 36th invention contains the execute step to which the above-mentioned server determines the device which carries out processing activation as a meaning, and gives a processing activation demand to the determined device concerned in the 31st above-mentioned invention out of the device belonging to the device group which transmitted to the above-mentioned user side based on directions from the above-mentioned registered user as the description.

[0050] 37th invention is characterized by the above-mentioned execute step containing the step which determines the above-mentioned device based on the information offered by the device agent who manages the information about the device managed by the above-mentioned server, or device information, and performs information offer actively to a server or a user in the 36th above-mentioned invention.

[0051] In the 37th above-mentioned invention, the above-mentioned execute step is most characterized by including the device which carries out processing termination at a high speed, or the step which determines a near device physically from a user by the 38th invention.

[0052] In the 31st above-mentioned invention, 39th invention is most characterized by including the sequence that processing ends most the information on the device belonging to the device group concerned at a high speed, or the sort step sorted in near sequence physically from a user, in case the above-mentioned server transmits the information about a device group to the above-mentioned registered user by the above-mentioned transmitting step.

[0053] The 40th invention is a device management method for two or more users to use two or more devices through a network, The processing step which the server on the above-mentioned network performs Each function of the device of the above-mentioned plurality, the engine performance, and the device information storage step of the location that memorizes which information at least, The access privilege of the user of the above-mentioned plurality, the royalty of each device, and the User Information storage step of a password that memorizes which User Information at least, The printer information grouping step which carries out grouping of the device information memorized by account of above-mentioned device information 100 million step on condition that arbitration, and arranges it, The User Information grouping step for carrying out grouping of User Information memorized by the above-mentioned User Information storage step on condition that arbitration, and arranging it, It is characterized by including the offer step which offers the information normalized by the above-mentioned device information grouping step and the above-mentioned User Information grouping step to the demand origin through the above-mentioned network.

[0054] The User Information enquiry demand step to which the 41st invention publishes the User Information enquiry demand to the above-mentioned server when a processing activation demand publishes [the user side of arbitration] to the device on the above-mentioned network in the 40th above-mentioned invention, The device group to which the device in which the above-mentioned server is shown by the above-mentioned User Information enquiry demand belongs, The retrieval step which searches the user group to which the user of the above-mentioned User Information enquiry demand origin belongs, The response step which the above-mentioned server answers to the user of the above-mentioned User Information enquiry demand origin in the retrieval result in the above-mentioned retrieval step, The above-mentioned user side is characterized by including the processing activation demand step which publishes the processing activation demand to the above-mentioned device based on the response by the above-mentioned response step.

[0055] 42nd invention is characterized by the above-mentioned response step containing the step which answers including the information about the device shown by the above-mentioned User Information enquiry demand in the 41st above-mentioned invention.

[0056] 43rd invention is characterized by the device on the above-mentioned network containing the advice step of a device side of functional information, status information, and change-of-state information which notifies which information to the above-mentioned server serially at least in the 40th above-mentioned invention.

[0057] 44th invention is characterized by the above-mentioned server containing the updating step which updates storage information based on advice by the above-mentioned advice step of a device side in the 40th above-mentioned invention.

[0058] 45th invention is characterized by including the registration step which makes it possible to register one User Information by the above-mentioned User Information storage step to two or more user groups depended on the above-mentioned User Information grouping step in the 40th above-mentioned invention.

[0059] 46th invention is characterized by including the registration step which makes it possible to register one device information by the above-mentioned device information storage step to two or more device groups depended on the above-mentioned device information grouping step in the 40th above-mentioned invention.

[0060] In the 40th above-mentioned invention, the 47th invention is possible in registering one User Information by the above-mentioned User Information storage step to two or more user groups depended on the above-mentioned User Information grouping step, and is characterized by including the registration step which makes it possible to register one device information by the above-mentioned device information storage step to two or more device groups depended on the above-mentioned device information grouping step.

[0061] 48th invention is characterized by the above-mentioned user side containing the access step which enables access and/or modification of the storage information on the above-mentioned server through the above-mentioned network in the 40th above-mentioned invention.

[0062] The 49th invention is set to the 48th above-mentioned invention. The above-mentioned access step The above-mentioned server memorizes authorization/disapproval of access to an access authorization storage region for every user. Authorization/disapproval of the right of modification of storage information are memorized to a modification authorization storage region. From User Information of access demand origin It searches whether access is permitted according to the above-mentioned access authorization storage region applicable to the user concerned. Authorization or the disapproval of access is performed according to the retrieval result. From User Information of change-request origin It searches whether access is permitted according to the above-mentioned modification authorization storage region applicable to the user concerned, and is characterized by including the step which performs authorization or refusal of modification according to

the retrieval result.

[0063] The user side of arbitration carries out [invention / 50th] containing the output step of above-mentioned User Information, the user-group information to which the above-mentioned user belongs, the above-mentioned device information, and the device group information to which the above-mentioned device belongs which outputs which information as interleaving paper of the above-mentioned processing activation at least as the description in the above-mentioned server in the 40th above-mentioned invention, when a processing activation demand publishes to the device on the above-mentioned network.

[0064] synchronous step **** which takes the synchronization of the above-mentioned device information, the above-mentioned device group information, above-mentioned User Information, and the above-mentioned user-group information by the communication link between the equipment concerned or a system when two or more the equipment or the systems by which the 51st invention has the function of the above-mentioned server in the above-mentioned network in the 40th above-mentioned invention exist — it is characterized by things.

[0065] 52nd invention is characterized by recording the program for making a computer realize the function of an information processor given in any of claims 1-12 they are, or the function of a network system according to claim 13 on the storage in which computer read-out is possible.

[0066] 53rd invention is characterized by recording the program for making a computer perform the processing step of a device management method given in any of claims 14-51 they are on the storage in which computer read-out is possible.

[0067] Specifically, according to this invention, following configuration (1) - (3) is realizable.

[0068] (1) To the bottom of the environments (the workstation which a user uses, a personal computer, terminal unit, etc.) where it connected through the network, a two or more device (output units, such as copying machine, printer, and facsimile apparatus) and user side collects the information on the device on a network, and carries out grouping of the server on a network on condition that arbitration (parameters for every function, every engine performance, and every location). Moreover, the right of an output of every access privilege and DEBAISUHE (every etc.) carries out grouping of User Information of two or more users who use a device from on a network on condition that arbitration. And the various above-mentioned information is offered to the demand (demand from a device, a user, a manager, etc.) which minds a network for User Information or device information which groups-involved-ization normalized.

[0069] on the other hand , with the terminal unit by the side of ** which have client software or a device driver (client equipment) etc. , it be access to a server , and a user side acquire the device information (positional information of a device etc.) connected to the network , it can display the device on a network in a map format (map information) from the physical distance relation in the space in which the network be install , and express it as a metaphor on the map format concerned .

[0070] You may make it display the information about the device concerned acquired from the server with the metaphor of a device, or the information about the device group to which the device concerned belongs in the above configurations.

[0071] (2) To the bottom of the environments (the workstation which a user uses, a personal computer, terminal unit, etc.) where it connected through the network, a two or more device (output units, such as copying machine, printer, and facsimile apparatus) and user side collects the information on the device on a network, and carries out grouping of the server on a network on condition that arbitration (parameters for every function, every engine performance, and every location). Moreover, the right of an output of every access privilege and DEBAISUHE (every etc.) carries out grouping of User Information of two or more users who use a device from on a network on condition that arbitration. And the various above-mentioned information is offered to the demand (demand from a device, a user, a manager, etc.) which minds a network for User Information or device information which groups-involved-ization normalized.

[0072] On the other hand, it is required that a user side should search the device group to which the device concerned belongs to a server based on the parameters (a function, engine performance, location, etc.) about the device which carries out activity hope with the terminal unit by the side of ** which has client software or a device driver (client equipment) etc. in case the device of the arbitration on a network is used (when the output in a printer etc. is performed). The device group to which a carrier beam server corresponds the above-mentioned demand based on the parameter (key) from a user is searched, and the results (information about a device group, information about the device belonging to the device group concerned, etc.) are offered to a user side. You may make it arrange the device belonging to a device group in order according to setting out from a user beforehand at this time. A user side will carry out a screen display of this, if the retrieval result from a server is received.

[0073] You may make it give the means for performing the above-mentioned setting out to a server a user side in the above configurations. Moreover, if the self-test of

the own condition of a device is always carried out and the own condition of a device has change, respectively when [of a device] offering the function on a network, you may make it require renewal of the status information of a device from a server.

[0074] Moreover, a user side advances an output request by another mode of this invention to the device group managed by the server. In the device group to which a carrier beam server corresponds this, the most efficient device is determined to the user side of a requiring agency. For example, the nearest device from a user side and the device which is a device near from a user side and can be most processed at a high speed are determined. And a server requires processing activation from the determined device.

[0075] (3) To the bottom of the environments (the workstation which a user uses, a personal computer, terminal unit, etc.) where it connected through the network, a two or more device (output units, such as copying machine, printer, and facsimile apparatus) and user side collects the information on the device on a network, and carries out grouping of the server on a network on condition that arbitration (parameters for every function, every engine performance, and every location). Moreover, the right of an output of every access privilege and DEBAISUHE (every etc.) carries out grouping of User Information of two or more users who use a device from on a network on condition that arbitration. And the various above-mentioned information is offered to the demand (demand from a device, a user, a manager, etc.) which minds a network for User Information or device information which groups-involved-ization normalized.

[0076] Moreover, in another mode of this invention, a server performs retrieval with the device group to which the device a user does [a device] activity hope belongs, and the user group to which the user concerned belongs based on the demand (enquiry demand) from a user side, judges whether based on this retrieval result, there is any royalty of the device in which the user concerned is doing activity hope to the user concerned, and answers to the user side of this result demand-origin. A user side determines whether refuse the activity of the device of the user who required actually based on the response from a server. At this time, it may be made to carry out a screen display of the information about the response from a server.

[0077] If the self-test of the own condition of a device is always carried out and the own condition of a device has change, respectively when [of a device] offering the function on a network, you may make it require renewal of the status information of a device from a server in the above configurations.

[0078] Moreover, when a server has retrieval of device information and device group information, and the demand of enquiry or modification, the user side who is a requiring agency judges whether retrieval of device information and device group information, and enquiry or modification is permitted, and performs access of device information and device group information, modification and authorization, or refusal to the user side of a requiring agency according to the decision result.

[0079]

[Embodiment of the Invention] Hereafter, the gestalt of operation of this invention is explained using a drawing.

[0080] [Gestalt of the 1st operation] this invention is applied to the network system 100 as shown in drawing 1 R> 1. The network system 100 of the gestalt of this operation is arranged in a certain space, and as shown in above-mentioned drawing 1 , equipment 111,112, the output units (device) 113, 114, 121, 122, 123, 131, and 132,133,141,142, such as a copying machine and a printer, and the server 151 for data processing are considering it as the configuration connected so that it could communicate mutually through a network 180 in the end of a user side edge which is a computer and a workstation.

[0081] An output unit 113,114 and a terminal unit 111, and 112 belong to the block 1 (Block-1) in the space where the network system 100 has been arranged. The output unit 121,122,123 belongs to the block 2 (Block-2) in the space where the network system 100 has been arranged. The output unit 131,132,133 belongs to the block 3 (Block-3) in the space where the network system 100 has been arranged. The output unit 141,142 belongs to the block 4 (Block-4) in the space where the network system 100 has been arranged.

[0082] Although a server 151 is mentioned later for details, it is the description in the gestalt of this operation, and offers the server service in a network system 100 in accordance with other functions with the function as a device management server.

[0083] The terminal unit 111,112 which a user uses functions to a server 151 as client equipment which publishes an acquisition demand of device information and device group information etc., respectively.

[0084] The engine performance differs from the function and, as for output unit 113,114,121-123,131-133,141,142 connected on the network 180 in the network system 100 of the gestalt of this operation here, a device status and an operating condition change every moment, respectively. In the former, it was dramatically difficult for a user to grasp all information, such as the location of these output units, and a function, under such system environment.

[0085] On the other hand, in the network system 100 which applied this invention, a

server 151 is functioning as a device management server, and is considering as the configuration which collects various information (henceforth "device information") about the device of output unit 113,114,121-123,131-133,141,142 or client equipment 111,112 grade connected to up to a network 180, and is memorized and managed.

[0086] The terminal unit 111,112 by the side of a user (henceforth "client equipment") is equipped with the function the device information managed by the server 151, and for expressing the positional information (device positional information) of an output unit especially as a metaphor on map information (it mentioning later about the definition of a metaphor), and is that a user can grasp the location of the output unit for which it asks simply at the client equipment 111,112 side by this function.

[0087] Drawing 2 shows an example of the record format 200 for managing the information (device information) about the device on an output unit 113,114,121 - the network 180 of 123,131-133,141,142, or client equipment 111,112 grade in a server 151.

[0088] The record format 200 contains the field 201 which memorizes a device ID, the field 202 which memorizes location information on a device — which block it is — the field 203 (1) which memorizes the information on the function which the output unit concerned has when a device is an output unit, 203 (2), --, the field 204 (1) which memorizes the information on the condition of the output unit concerned, 204 (2) and --, as shown in above-mentioned drawing 2 .

[0089] The device ID memorized to a field 201 is the number of the proper of a device, and is managed by this device ID by the server 151. The location information on the device memorized to a field 202 is the information which expressed the location of a device as a coordinate. In above-mentioned drawing 2 , an object device exists in block 3 (Block-3), and the information about the coordinate (x y) in this block 3 (Block-3) is memorized to a field 202.

[0090] Therefore, package management of the server 151 can be carried out by the record format 200 of above-mentioned drawing 2 about the device on a network 180. And the server 151 has the function to offer the management information (device information) concerned to client equipment with a demand, according to the demand of the management information from client equipment 111,112. Moreover, by the above-mentioned management information about output unit 113,114,121-123,131-133,141,142 (location contained in device information, information on a function, etc.), a server 151 carries out group registration and manages output unit 113,114,121-123,131-133,141,142 on a network 180.

[0091] Drawing 3 shows the configuration for functioning as a device management server in a server 151. As shown in above-mentioned drawing 3 , a server 151 The database 302 for User Information (DB), the database for device information by the record format 200 shown in above-mentioned drawing 2 (DB) -- 303 -- With the Management Department 305 which does comprehensive management of the database for group information of a device (DB)304, and DB 302-304 It has the updating section (renewal section of information) 306 of the information in DB 302-304, the retrieval section (information retrieval section) 307 of the information in DB 302-304, and the system management section 308 that manages employment of the network-system 100 whole etc.

[0092] The information about the user using a network system 100 is accumulated in DB302 for User Information. The device information about the device on a network 180 is accumulated in DB303 for device information by the record format 200 shown in above-mentioned drawing 2 R> 2.

[0093] Based on the device information about output unit 113,114,121-123,131-133,141,142 by the record format 200 shown in above-mentioned drawing 2 , the device group information which classified output unit 113,114,121-123,131-133,141,142 on a network 180 is arranged and accumulated in DB304 for group information of a device.

[0094] The system management section 308 receives and processes the various demands (demand of informational retrieval, enquiry, updating, etc.) from output unit 113,114,121-123,131-133,141,142 and the terminal unit 111,112 by the side of a user through a network 180. Moreover, the system management section 308 accesses the information managed by DB 302-304 through the renewal section 306 of information or the information retrieval section 307, and the DB Management Department 305 if needed. Moreover, the information managed within these servers 151 has too composition in which access and modification are possible through the network (equivalent to the configuration of claim 48).

[0095] Drawing 4 shows an example of the user interface screen (viewing window) 400 displayed with the terminal unit 111,112 by the side of a user (client equipment). This user interface screen is offered when CPU (central processing unit) client equipment carried out [CPU] the graphic display abbreviation based on the network control program installed in client equipment possible [activation] performs, and it is indicated by visible by the function of OS and a display driver at displays, such as CRT. In the viewing window 400, the condition that the metaphor of the output unit (device) by which network connection was carried out has been arranged is displayed on the map information on space that the network system 100 was built, and the map

information concerned. Here, a metaphor is a display object which specifies a device as shown in 405-411, and is the same as that of the icon of the semantics of a wide sense. Thus, the display object of a device will be called a metaphor in an example.

[0096] In above-mentioned drawing 4 , "401" is that pointing devices, such as a mouse connected to the terminal unit 111 by the side of a user or 112, are operated from a user, and is a pointer which moves on a viewing window 400 synchronizing with the actuation concerned. "402" is a home-position carbon button for arranging and displaying a user's own terminal unit 111 or 112 on the center of a window in a viewing window 400.

[0097] In a viewing window 400, "403" is a navigation carbon button for displaying the part which cannot be displayed in a viewing area, when the map information displayed from a viewing area is large. For example, in the navigation carbon button 403, the direction of an arrow head is choosing the carbon button of the right sense with a pointer 401, and it becomes possible to display the field which exists rightward of a user by the viewing area of a viewing window 400.

[0098] "404" is a contraction scale modification carbon button for changing the contraction scale of the map information displayed by the viewing window 400. For example, with a pointer 401, a user is operating the contraction scale modification carbon button 404, and becomes possible [displaying map information on a viewing window 400 by the contraction scale for which it asks].

[0099] "405"- "411" is a metaphor which expresses the output unit connected to the network 180, respectively. In a viewing window 400, these metaphors 405-411 are physical relationship equivalent to the physical location in actual space, and are arranged and displayed on map information, respectively.

[0100] "407" is a metaphor showing a user's own terminal unit 111 or 112. In a viewing window 400, on map information, it is arranged and is displayed by physical relationship equivalent to the physical location in actual space about this metaphor 407 as well as the metaphor of the output unit mentioned above.

[0101] About the metaphor 407 showing a user's own client equipment 111 or 112, it has composition which is arranged and is displayed on the core of the viewing area of a viewing window 400 based on actuation of the home carbon button 402 mentioned above.

[0102] The server 151 is carrying out package management of the information about the location (display position of a metaphor) of the output unit in the above viewing windows 400, and client equipment by the DB303.

[0103] Moreover, the terminal unit 111,112 by the side of a user In order to display the above viewing windows 400, to a server 151 by publishing the positional information acquisition demand about the device on a network 180 Output unit 113,114,121-123,131-133,141,142 and the client equipment 111 by the side of **, or the positional information about 112 is acquired. Based on this, the map information output unit 113,114,121-123,131-133,141,142 and the client equipment 111 by the side of **, or the metaphor of 112 was indicated to be is created. By the viewing window 400 obtained by this being displayed with the terminal unit 111,112 by the side of a user, a user becomes possible [grasping easily the location of output unit 113,114,121-123,131-133,141,142 visually connected on the network 180 to accuracy].

[0104] Furthermore, in the viewing window 400 of above-mentioned drawing 4 , a user moves a pointer 401, and if the metaphor (here, it considers as an output unit 409) of the output unit for which it asks is chosen, as shown in drawing 5 , information (device information) 409a about the output unit 409 concerned will be displayed. Thereby, a user becomes possible [grasping detailed information such as a function of the various devices intuitively connected to up to a network 180, and a current condition,]. Moreover, the metaphor of drawing 4 and the output unit shown by 5 has the composition that warning is displayed, when it is alike with the client group to whom a client belongs, and acquisition of detailed information is forbidden more, the display which gives a user the image which cannot choose a metaphor is performed or selection processing is performed (equivalent to the configuration of claims 29 and 30).

[0105] The function of the terminal unit 111,112 by the side of the above servers 151 and a user is carried out by for example, server software or client software. The terminal unit 111,112 by the side of a server 151 and a user has the computer ability 500 as shown in drawing 6 , respectively, and, specifically, actuation of the gestalt of this operation is carried out by the CPU501.

[0106] As shown in above-mentioned drawing 6 , the computer ability 500 CPU501, ROM502, RAM503, and the keyboard controller 505 of a keyboard (KB) 509 (KBC), CRT controller 506 of CRT display (CRT) 510 as a display (CRTC), The disk controller 507 of a hard disk (HD) 511 and the floppy (trademark) disk (FD) 512 (DKC), Network Interface Card (NIC) 508 is considering as the configuration mutually connected possible [a communication link] through the system bus 504. And a system bus 504 is connected with the network 180 shown in above-mentioned drawing 1 .

[0107] CPU501 is performing software memorized by ROM502 or HD511 or software supplied from FD512, and controls each configuration section connected to the system bus 504 in the gross. That is, CPU501 is reading the processing program

according to a predetermined processing sequence from ROM502, HD511, or FD512, and performing it, and performs control for realizing actuation with the gestalt of this operation.

[0108] RAM503 functions as main memory or a work area of CPU501 etc. KBC505 controls the directions input from KB509, a pointing device, etc. which is not illustrated. CRTC506 controls the display of CRT510. DKC507 controls access with HD511 and FD512 which memorize a boot program, various applications, an edit file, a user file, a network control program, the above-mentioned processing program in the gestalt of this operation, etc. NIC508 exchanges data in the device on a network 180, and both directions.

[0109] Drawing 7 shows the actuation for carrying out a screen display of the viewing window 400 shown in above-mentioned drawing 4 or drawing 5 in the CRT510 grade shown in above-mentioned drawing 6 in client equipment 111,112. In client equipment 111,112, the CPU501 is performing the processing program according to the flow chart of above-mentioned drawing 7 , and, specifically, the following actuation is carried out.

[0110] Step S601: If a map information display request (display demand of a viewing window 400) is made from a user, CPU501 will be accessing a network 180 to a server 151, and will acquire map information (map information).

[0111] In addition, it is good also as what is beforehand held in client equipment 111,112 about map information. In this case, it is unnecessary in processing of step S601.

[0112] Step S602: By making into key information area where the user desires a display, CPU501 is accessing a network 180 to a server 151, and acquires the information (device information, such as device positional information) about the device on a network 180.

[0113] Step S603: If CPU501 goes into a response waiting state from a server 151 and has a response from a server 151, processing from the following step S604 will be performed.

[0114] Step S604: CPU501 performs data processing for determining which device is arranged about the information on all the devices contained in the information received from the server 151 using the information (positional information of a device etc.) received from the server 151 to which location on the map (or it has held in equipment beforehand) information received from the server 151.

[0115] Step S605: Based on the result (metaphor location) of data processing in step S604, CPU151 arranges the metaphor of each device to up to map information, and draws. By this, a screen display of the viewing window 400 as shown in above-mentioned drawing 4 or drawing 5 will be carried out. Then, it becomes this processing termination.

[0116] Drawing 8 shows the actuation at the time of receiving the information acquisition demand (an acquisition demand of device information, step S602 reference of above-mentioned drawing 7) from client equipment 111,112 in a server 151. In a server 151, the CPU501 (equivalent to the system management section 308 of above-mentioned drawing 3) is performing the processing program according to the flow chart of above-mentioned drawing 7 , and, specifically, the following actuation is carried out.

[0117] Step S701: If a server 151 receives an information acquisition demand from client equipment 111 or 112, in a server 151, the information retrieval section 307 will acquire the information which corresponds from DB304 for device group information based on the key information (information on the area as for which the user is doing display hope) included in the demand concerned.

[0118] Step S702: The information retrieval section 307 acquires the information on the device shown using the device group information acquired at step 701 (device detailed information about all the devices belonging to the area as for which the user is doing display hope, such as the location and a function) from DB303 for device information.

[0119] Step S703: The system management section 308 transmits the information acquired in the information retrieval section 307 to the client equipment 111 of information acquisition demand origin, or 112. Then, it becomes this processing termination.

[0120] The viewing window 400 as showed the information about the various devices on a network 180 to above-mentioned drawing 4 and drawing 5 to the user according to the gestalt of these above operations

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] In the gestalt of the 1st operation, it is the block diagram showing the configuration of the network system which applied this invention.

[Drawing 2] It is drawing for explaining the device information which the server of the above-mentioned network system manages.

[Drawing 3] It is the block diagram showing the internal configuration of the above-mentioned server.

[Drawing 4] It is drawing for explaining an example of the screen displayed with the client equipment of the above-mentioned network system.

[Drawing 5] It is drawing for explaining signs that the detailed information of a device was displayed on the above-mentioned screen.

[Drawing 6] They are the above-mentioned server, the above-mentioned client equipment, and the block diagram showing the configuration of the computer ability which the above-mentioned device has.

[Drawing 7] It is a flow chart for explaining actuation of the above-mentioned client equipment.

[Drawing 8] It is a flow chart for explaining actuation of the above-mentioned server.

[Drawing 9] In the gestalt of the 2nd operation, it is drawing for explaining the device group information managed by the above-mentioned server.

[Drawing 10] It is drawing for explaining an example of the screen of the above-mentioned device group information displayed with the above-mentioned client equipment.

[Drawing 11] It is drawing for explaining an example of the screen of the information about the device belonging to the group of arbitration displayed with the above-mentioned client equipment by the actuation on the above-mentioned screen.

[Drawing 12] It is a flow chart for explaining actuation of the above-mentioned client equipment in the gestalt of the 2nd operation.

[Drawing 13] It is a flow chart for explaining actuation of the above-mentioned server in the gestalt of the 2nd operation.

[Drawing 14] In the gestalt of the 3rd operation, it is drawing for explaining an example of the screen of the above-mentioned device group information displayed with the above-mentioned client equipment.

[Drawing 15] It is drawing for explaining an example of the informational setting-out screen used in case automatic selection of the suitable device is made out of the device which belongs to the group of arbitration with the directions from the above-mentioned screen.

[Drawing 16] It is a flow chart for explaining actuation of the above-mentioned client equipment in the gestalt of the 3rd operation.

[Drawing 17] It is a flow chart for explaining actuation of the above-mentioned server in the gestalt of the 3rd operation.

[Drawing 18] In the gestalt of the 4th operation, it is the block diagram showing the configuration of the network system which applied this invention.

[Drawing 19] In the above-mentioned network system, it is drawing for explaining the processing which carries out grouping of two or more devices on a network.

[Drawing 20] It is drawing for explaining the processing which carries out grouping of two or more users who use two or more above-mentioned devices.

[Drawing 21] It is drawing for explaining the result (user-group information) of having carried out grouping of two or more above-mentioned users managed by the server of the above-mentioned network system.

[Drawing 22] It is drawing for explaining the royalty information on two or more above-mentioned devices managed by the server of the above-mentioned network system.

[Drawing 23] It is the block diagram showing the internal configuration of the above-mentioned server.

[Drawing 24] It is a flow chart for explaining actuation of the client equipment of the above-mentioned network system.

[Drawing 25] It is a flow chart for explaining actuation of the above-mentioned server.

[Drawing 26] It is drawing for explaining an example of the display screen (screen which tells those without a royalty) in the above-mentioned client equipment in the gestalt of the 5th operation.

[Drawing 27] It is a flow chart for explaining actuation of the above-mentioned server in the gestalt of the 5th operation.

[Description of Notations]

100 Network System

113, 114, 122, 121, 123, 131, 132,133,141,142 Device (output unit)

111,112 Terminal unit by the side of a user (client equipment)

151 Server

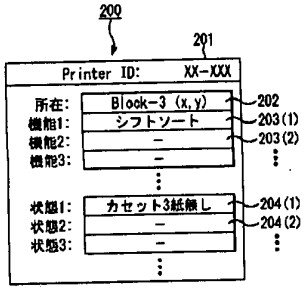
180 Network

302 Database for User Information

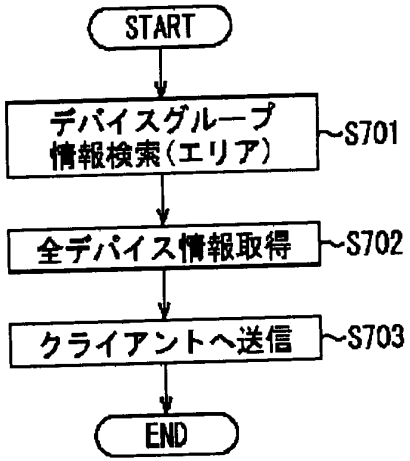
303 Database for Device Information
304 Database for Device Group Information
305 Data Base Manager
306 Renewal Section of Information
307 Information Retrieval Section
308 System Management Section

DRAWINGS

[Drawing 2]



[Drawing 8]



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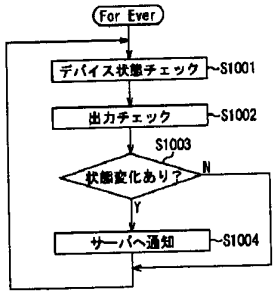

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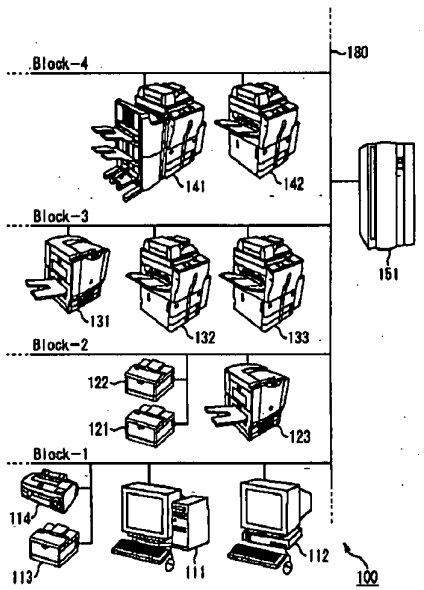

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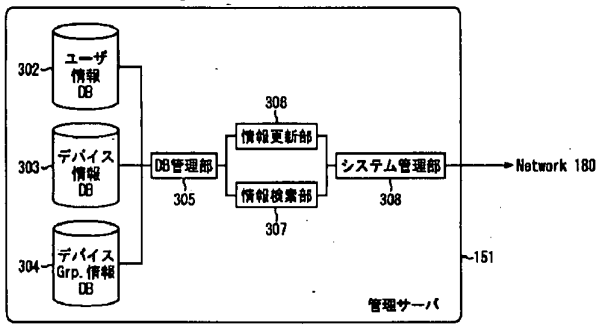

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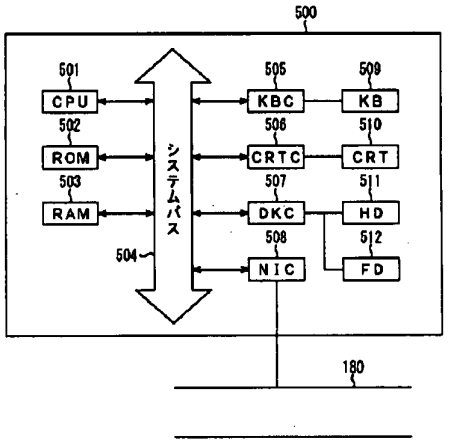

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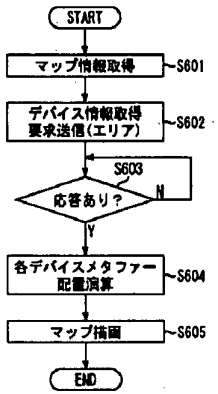

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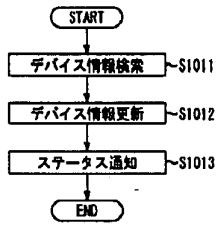

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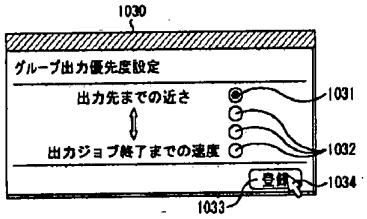

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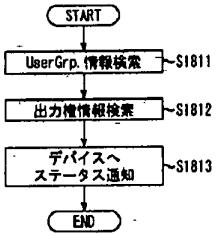

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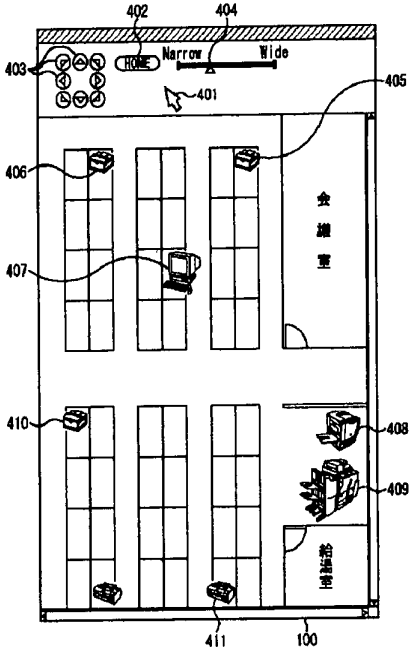

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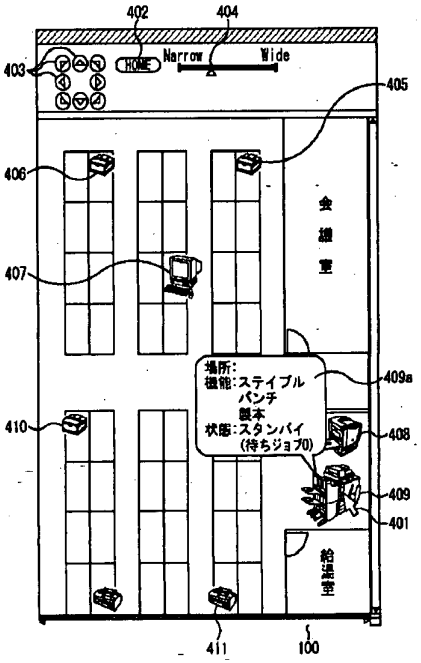

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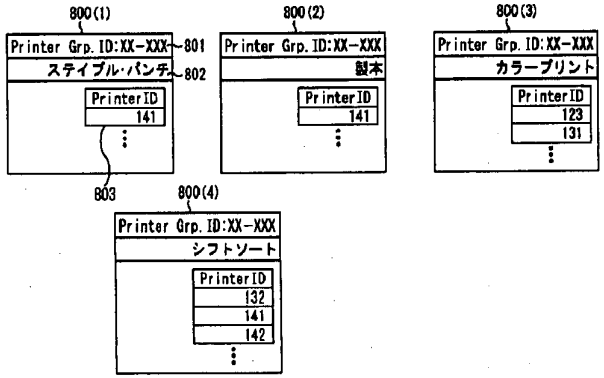

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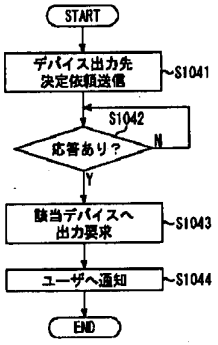

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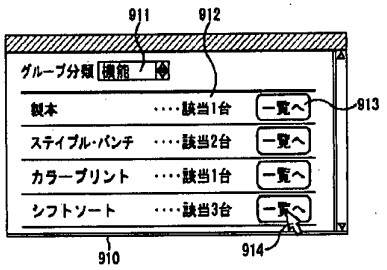

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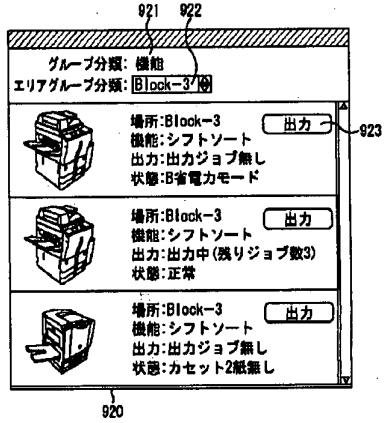

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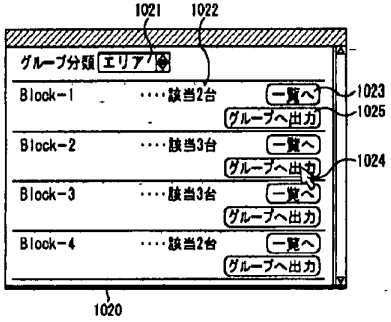

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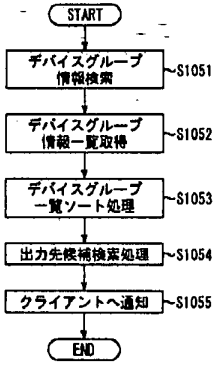

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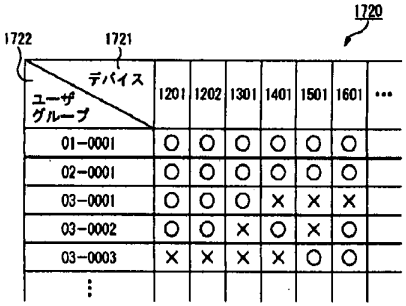

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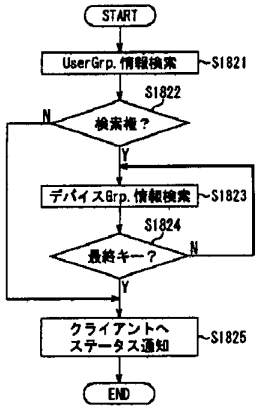

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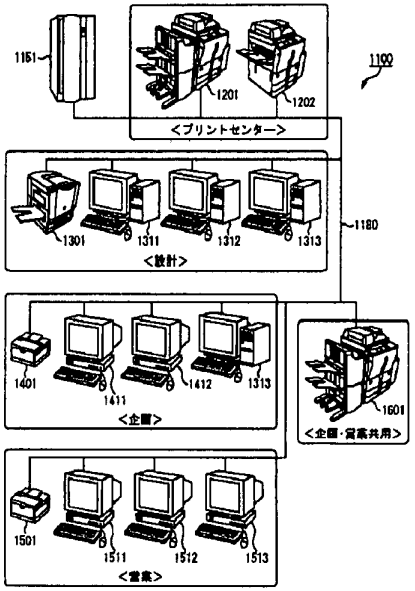

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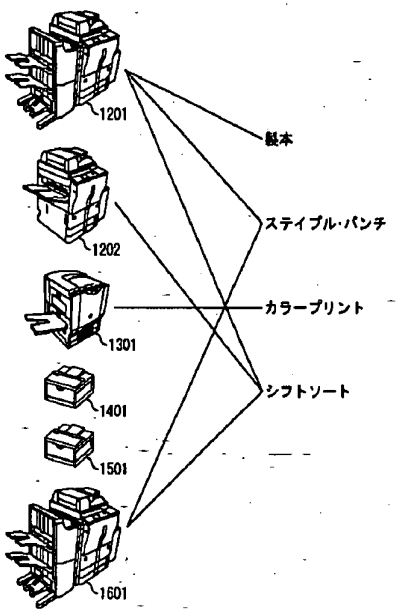

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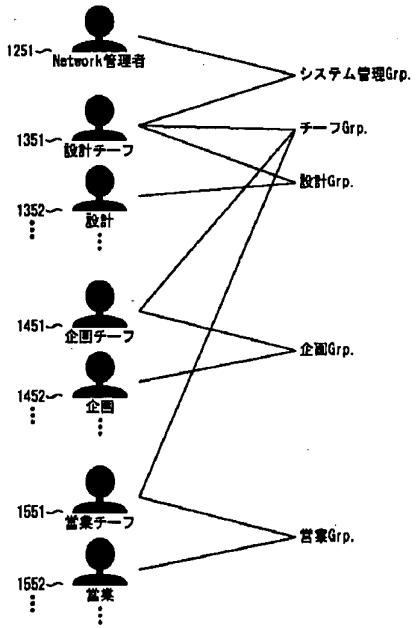

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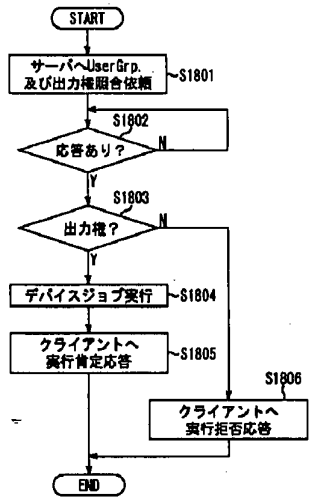

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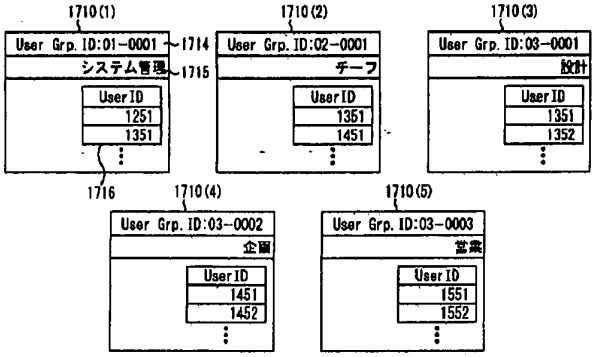

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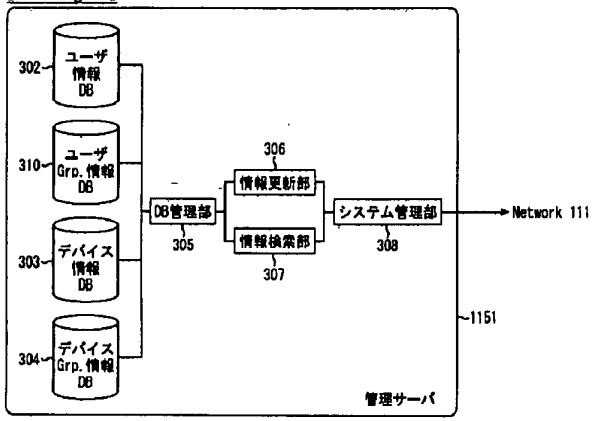

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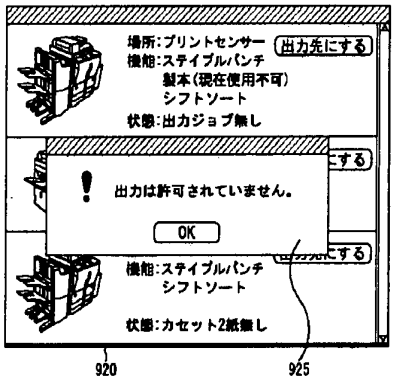

[Translation done.]